



**Royal Berkshire**  
NHS Foundation Trust

# **Stereotactic ablative body radiotherapy (SABR) to the lung**

**Thames Valley and Wessex  
Radiotherapy Network information  
for patients and their families**

---

## **You have been recommended radiotherapy treatment – this leaflet explains what happens next...**

---

In the clinic today, you and your doctor have decided that you will have radiotherapy treatment for your cancer. This booklet discusses what you can expect during and after your treatment and gives some general advice and information.

You will be given time to discuss any concerns with the radiographer (a person trained to give radiotherapy) at your planning appointment.

### **Planning treatment**

You will be contacted by telephone to arrange an appointment for the CT scan, which forms part of the planning of your radiotherapy treatment and which can take up to two hours. During this call, please mention if:

- You have not had a blood test taken in the last 12 weeks, as we may require you to take one prior to the planning scan.
- Please let us know if you have a pacemaker or other implanted cardiac device, as radiotherapy can affect some types of cardiac devices.
- You have any problems with travel or appointment times – we will do our best to help you.

If the Radiotherapy Planning Department do not call you within a week of today's appointment, please contact us on the number below.

**Telephone: 0118 322 7872 Monday-Friday, 8.30am-4.30pm**

**Email: [radiotherapy.planning@nhs.net](mailto:radiotherapy.planning@nhs.net)**

## What is stereotactic radiotherapy?

Radiotherapy works by using high energy x-rays to kill cancer cells. Our bodies are made up of different cells, and all cells have the ability to divide and grow. If radiation hits a cell that is dividing, it will be damaged. Unlike normal cells, cancer cells are much less able to repair the damage which means that more of them will be destroyed. SABR is an effective way of giving focused radiotherapy, increasing the chance of controlling the tumour while sparing the normal tissues. It does this by using:

- fewer treatment sessions (usually 3, 5 or 8)
- smaller more precise radiation fields (i.e. for small tumours less than 5cm in size)
- higher doses of radiation.

SABR is different from conventional forms of lung radiotherapy which can involve up to 33 treatment sessions over 6 and half weeks.

When recommending radiotherapy, your doctor will have taken into account the risks and benefits of the treatment. Although there are risks and side effects, it is felt that the advantages for you outweigh the disadvantages.

## Pregnancy

**Patients with child-bearing capacity must not be pregnant or become pregnant at any time during a course of radiotherapy** as radiation can be harmful to the unborn child. It is important to let the radiographers know if you have missed a period or suspect that you may be pregnant, before you are exposed to any radiation.

Patients with child-bearing capacity will be asked to confirm their pregnancy status prior to planning the radiotherapy and again on the first day of radiotherapy treatment. This applies to all those with child-bearing capacity between the ages of 10-56 years and is a legal requirement.

## **Planning your radiotherapy treatment**

Before you can start radiotherapy treatment, it needs to be carefully planned. The radiotherapy department staff will explain what to expect and answer any of your questions.

Once you have been referred for radiotherapy, you will either be given an appointment in clinic or a member of the radiotherapy team will telephone you with an appointment to attend the radiotherapy department in the Berkshire Cancer Centre (BCC) or Bracknell HealthSpace for a CT scan, which is the first stage in planning your treatment. If you have any problems with travel or appointment times, please mention these when we contact you about your CT scan appointment. We will do our best to help you. You may also provide a car registration number if you or a friend or relative drives you to the hospital for your appointments, this will ensure you receive free parking in the multi-storey carpark and the carpark location on London Road. Please do this at the radiotherapy reception desk. Whilst you have access to free parking, it does not guarantee a parking space. Parking availability at the Royal Berkshire Hospital and Bracknell HealthSpace can be very limited.

At the start of your planning appointment you will meet our specialist team who will explain what is going to happen and answer any of your questions. Our planning and treatment teams are comprised of male and female radiographers. You may also meet radiography students and apprentices involved with the delivery of your treatment under close supervision as The Berkshire Cancer Centre is a training centre.

During the CT scan you will lie on the CT couch with your clothes removed from the waist up. The radiographers will then help to achieve the best position for you. This depends on the area receiving treatment. You may be positioned on a wing board which is a device that allows your arms to be supported in a position raised above your head. This is to ensure your arms are clear of the area to be treated. A personalised vacuum polystyrene bag that forms to your shape may be used to help with your arm position. Some patients may need a

mask to be made at this appointment if the area requiring treatment is in the apex of the lung. The process will be explained thoroughly when you come for your planning appointment. The personalised equipment made at this appointment will then be used throughout your treatment. If you have any arm mobility issues please contact us in advance and we can work out the best position for you.



*CT scanner with equipment used for positioning*

During this planning session, the radiographers may place some markers on your skin that will show up on the scan. Measurements are then taken to record the position for treatment. The radiographers will then leave the room to start the scan. During the scan you will move through the scanner, however you will not see or feel anything. You can breathe normally throughout the scan.

This may then be repeated for a second scan to measure your breathing cycle.

Each scan will take approximately two minutes. It will not hurt but it is very important that you stay very still during the scan. The radiographers are watching you throughout the whole procedure.

You may be in the same position for 40 minutes whilst the personalised vacuum bag is moulded to fit your shape, and then the planning scans. If you normally take painkillers you may wish to bring some with you to take before you have your planning appointment.

You can eat and drink normally before your appointment.

## **Contrast injection ('dye')**

The doctor may have asked for you to have an injection of contrast for the scan. Not everyone will have this but for some patients it is helpful as it shows more detail in the chest scan.

You may have had an injection of contrast for scans before. It involves having a cannula, which is bendy tube inserted into your arm or hand using a needle. The needle is only used to position the cannula and is removed once the cannula is in place. The cannula that is left in your vein is there to inject the contrast through. The radiographers will let you know when the injection is about to start.

The contrast injection may create a very warm feeling for about 20 seconds. This is often concentrated around the pelvis and groin area spreading down the thighs. It may also give you a metallic taste in your mouth. These are all common and disappear quickly. The cannula will be removed about 30 minutes after your CT scan is finished.

**If you have had an allergic reaction to contrast dye before, you must tell the radiographers before your scan.**

After your CT scan you will be given the date and time for your treatment appointment. There will be a period of several weeks before your treatment will begin. This is because it takes time for the team to prepare your treatment plan.

## **Your first radiotherapy treatment**

When you arrive for your treatment, please check in at the treatment area reception. At your first treatment you will have a chat with one of the team of radiographers who will be treating you.

They will:

- Check your details.
- Give you a list of your first week of appointment times.
- Discuss the treatment procedure.
- Outline the potential side effects.
- Answer any questions you may have.

Sometimes, this conversation will happen the day before your first appointment, on the telephone.

## **What happens during treatment?**

Each time you attend, we need to make sure we are treating the correct person. As you enter one of the treatment rooms, the radiographers will ask you to identify yourself by giving your name, date of birth and first line of your address.

The radiographers will check this information against your electronic treatment record.

You may be asked to change into a hospital gown before treatment. If you prefer, you can bring in your own dressing gown each day. You may be asked to remove jewellery such as chains and necklaces. The radiographers will take you into the treatment room and position you on the treatment couch in the same position as you were for your planning scan.

Our treatment machines have a camera system attached which uses infra-red lights to help us get you into the correct position and will also detect movement during the radiotherapy. We will need to remove your clothing from the waist up in order to use the camera system. You may feel a bit exposed, but it will only be your treatment team that is

present with you. You will not feel anything from the infra-red light and it will not affect or hurt your eyes so you can keep them open if you wish. Please do let us know if you are light sensitive.

All the measurements for your treatment will then be set and checked.

As part of this preparation, you will hear the radiographers checking some treatment information and measurements. This is how they check your position. The treatment machine and imaging equipment will then be moved into position. The treatment machine will not touch you. It is **very important** you remain still, breathing and swallowing as normal during your treatment, as during the CT scan.

The radiographers will leave the room, take a scan to check your position and then start the treatment. Although you are alone in the room, the radiographers will watch you through closed-circuit monitors. If you need a radiographer during the treatment, raise your hand clearly and a radiographer will stop the machine and come into the room.

The machine will move around you and deliver treatment from different angles. This is controlled by the radiographers outside. They may enter the room during the treatment, if so please try to keep as still as possible. You will not feel anything during the treatment, but you will hear a buzzing noise as the treatment is delivered.

During your treatments we will take verification scans to confirm your treatment position; there will not be any results from these, they are to help us get you in the right position for treatment each day.

The total time of your first treatment will be approximately 45 minutes. Subsequent treatments should take approximately 30 minutes.

SABR is given in 3, 5 or 8 treatments at least 24 hours apart (for example 5 treatments would be given on days: Monday, Tuesday, Thursday, then the next Monday and Tuesday). Your Clinical Oncologist (Specialist Doctor), Lead Radiographer or Physicist will be able to tell you how many treatments you will need.



Due to servicing of the machines it may sometimes be necessary to treat you on a different machine. Please be assured that all the machines give the same treatment.

It is very important that you do not miss treatment days as this may make your treatment less effective. If you feel you are unable to attend for any reason please discuss the problem with a radiographer, or phone your lung cancer nurse specialists.

## **After treatment**

Radiotherapy does not make you radioactive and it is perfectly safe for you to be with other people, including children, after your treatment.

While radiotherapy can destroy cancer cells, it may also have an effect on some of the surrounding normal cells and so you may experience some symptoms and side effects.

Side effects and their intensity will vary from patient to patient – everyone is different and reacts differently to the treatment. The side effects experienced vary depending on the exact area that is receiving treatment. It is important you keep the radiographers informed of any side effects that you experience.

Early reactions to SABR tend to occur during treatment or up to 3 months after completing your treatment.

## **Possible side effects**

**Tiredness:** Your body will use a lot of energy over the course of the treatment and added to the travelling and anxiety of this you may feel tired. The tiredness will start while you are on treatment and could continue for a few weeks after treatment has finished. You should try and pace the activities that you do during the day and have a sleep or nap if needed. There is no reason why you shouldn't continue with your usual daily activities as you feel able.

**Skin reaction:** One of the side effects you may experience from the treatment is a skin reaction in the area we are treating. This begins as a mild reaction similar to sunburn and may become dry and itchy.

To reduce the skin reaction, we advise that:

- After showering or gentle washing, towel dry the treatment area by patting not rubbing the skin, ideally allow the skin to dry naturally.
- Apply moisturising cream twice a day to moisturise the treatment area, although avoid applying cream one hour before treatment.
- Try to keep natural fibre clothing against your skin.
- Avoid applying hot or cold heat sources to the treatment area.
- Avoid exposing the treatment area to the sun.

If you experience any itching in the treatment area, please let the radiographers know and they will advise you further.

**Pain or discomfort:** If you experience any pain or discomfort, you can take painkillers, such as paracetamol, following the dosage instructions on the packaging.

**Cough:** The radiotherapy may cause some temporary inflammation and irritation in your lung, which may cause or increase an already present cough. Your oncologist may be able to prescribe medication to help.

**Haemoptysis (blood in the sputum):** As the radiotherapy can cause some temporary inflammation in your chest there may be some bleeding from some of the small blood vessels in your lungs, which you may cough up. This is nothing to worry about but please let one of the radiographers know at your next treatment.

**Shortness of breath:** As already mentioned, the radiotherapy may cause some inflammation in your lung and this may cause or increase any already present shortness of breath. This can be relieved with

medications prescribed by your oncologist and by resting as required to help you catch your breath.

## **Long term side effects**

Long term side effects can occur many months to years after radiotherapy has finished. The side effects relating to your treatment will have been discussed with you at your appointment with your oncologist. SABR treatment is planned to avoid the areas surrounding the tumour as much as possible, to reduce side effects.

**Lung fibrosis:** following SABR treatment there may be scarring of the lung which can be seen on an X-ray or computed tomography (CT) scan which usually does not cause a significant increase in breathlessness.

Please ask your team of radiographers or your specialist nurse if you have any questions or concerns.

If you have questions, it may help to write them down and discuss them when you next visit the hospital.

## **Contact details.**

Lung Nurse Specialists: 0118 322 8994 (8am-4pm)

Email: [lungcancernurses@royalberkshire.nhs.uk](mailto:lungcancernurses@royalberkshire.nhs.uk)

Berkshire Cancer Centre: 0118 322 7888 (9am-5pm)

Email: [radiotherapy.planning@nhs.net](mailto:radiotherapy.planning@nhs.net)

Radiotherapy Clinic: 0118 322 7890 (9am-5pm)

Macmillan Cancer Information Centre: 0118 322 8700

Patient Advice and Liaison Service (PALS): 0118 322 8338 or email: [PALS@royalberkshire.nhs.uk](mailto:PALS@royalberkshire.nhs.uk)

## Further information

Macmillan Cancer Support: 0808 808 2020 [www.macmillan.org.uk](http://www.macmillan.org.uk)

British Lung Foundation: 08458 505020 [www.lunguk.org](http://www.lunguk.org)

Roy Castle Lung Cancer Foundation, Tel: 0333 323 7200  
[www.roycastle.org](http://www.roycastle.org)

Mesothelioma UK, freephone support line 0800 169 2409  
[www.mesothelioma.uk.com](http://www.mesothelioma.uk.com)

To find out more about our Trust visit [www.royalberkshire.nhs.uk](http://www.royalberkshire.nhs.uk)

**Please ask if you need this information in another language or format.**

RBFT Berkshire Cancer Centre. Reviewed: LA / SM, July 2025.

Next review due: July 2027.