

Stereotactic ablative body radiotherapy (SABR) to the lung:

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

This leaflet is for people with lung cancer who are about to have stereotactic ablative body radiotherapy (SABR) treatment. Family members may also find it helpful. We hope it will help to answer some of the questions you may have. Your clinical oncologist (specialist doctor) will also discuss the treatment with you.

What is stereotactic radiotherapy?

Radiotherapy is the use of high energy x-rays (radiation) to treat cancer. It damages tumour cells to stop them from growing or causes them to die. The purpose of radiotherapy is to destroy the cancer cells while causing as little damage as possible to normal cells.

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.

Radiotherapy itself is painless and does not make you radioactive. It is perfectly safe for you to be with other people, including children and pregnant women during the course of your treatment. 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 treatment

You will need to come for a planning appointment in the Radiotherapy Department before starting your treatment. This is to decide the position you will need to be in for the radiotherapy treatment and then take a CT scan that we will use to plan your treatment.

Radiotherapy planning CT scan

You will be asked to lie flat on the CT couch, usually with your arms supported above your head. A CT scan will be taken of your chest and upper abdomen. **You can breathe as you normally do during the scan and you will not need to hold your breath.**

Having your treatment

This will take approximately 45 minutes for the first treatment and then 30 minutes for the remaining treatments.

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 radiotherapy doctor / lead radiographer / physicist will be able to tell you how many treatments you will need.

At each treatment session, the radiographers will position you accurately, moving the treatment couch and machine to direct the treatment at the tumour. The machine will not actually touch you. 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.

During treatment, it is important for you to stay as still as possible and to breathe normally. Once you are in the correct position and all the checks are completed the radiographers will leave the room to switch on the machine.

The radiographers will be watching you on a closed circuit TV monitor (CCTV) to ensure you are safe during the delivery of the radiation. The radiographers need to see that you are keeping still and check that you are not experiencing any problems during your treatment. The radiographers will be able to hear you and talk to you via an intercom during treatment. Each session takes around 45 minutes.

The radiographers will monitor you for any side effects throughout your treatment course and arrange for you to see a doctor if necessary.

Some days the radiotherapy department may be very busy and your appointment time may be delayed. We will keep you informed of any delays.

Your appointment times for radiotherapy will be confirmed in advance. It is important to speak to a health care professional before booking a holiday immediately following your radiotherapy.

What are the potential side effects of treatment?

Side effects can vary from patient to patient. Not everyone will experience all of the side effects below but it is important for you to be aware of them.

If you are a smoker, it is important to stop as it can increase the risk of side effects from treatment. We can offer you help with this and your radiotherapy doctor will discuss this with you. It is important to tell the radiographers how you are feeling, particularly if your symptoms worsen, so that you can get the care you need.

Early side effects

- Early reactions to SABR tend to occur during treatment or up to 3 months after completing your treatment. They are usually temporary and include:
- **Tiredness:** This is common, especially towards the end of treatment. Listen to your body and allow time to rest and sleep. You will gradually feel less tired.
- **Skin reactions:** Your skin may become red, itchy or dry in the treated area. You will be given skin care advice by the team caring for you.
- **Shortness of breath and cough:** Sometimes, following radiotherapy to the chest, the lung may become inflamed. This is known as 'radiation pneumonitis'. It causes shortness of breath and a dry cough usually beginning 6-12 weeks after completion of treatment. This is uncommon and is less likely to happen after SABR than if you had conventional radiotherapy. If pneumonitis is suspected, your clinical oncologist may prescribe you high-dose oral steroid tablets to reduce the inflammation and help to relieve your symptoms. Rarely, you may need inpatient care in hospital for this.
- **Chest pain:** If the tumour is close to your chest wall you may experience some chest pain following SABR. This can be managed with painkillers such as paracetamol.
- **Swallowing difficulties:** SABR can rarely cause your oesophagus (food pipe) to become inflamed resulting in discomfort and difficulty swallowing. This is not common with SABR compared to conventional radiotherapy. It can be managed with painkillers and choosing soft and bite-sized foods (soft, tender and moist) and will gradually get better.

Possible long-term side effects

Long term side effects can occur many months to years after radiotherapy has finished. These late side effects are hard to predict and unfortunately, if they do occur, can be permanent. We plan the treatment to avoid the areas surrounding the tumour as much as possible, to reduce these side effects.

- **Chest wall pain or rib fracture:** There is a 10% chance (10 in 100 people) that treatment of tumours close to the chest wall may weaken the ribs, causing pain and possibly rib fractures. This risk is increased in patients with osteopenia and osteoporosis. This may require regular treatment with painkillers for a long period of time.
- **Lung scarring:** The risk of permanent lung damage is very small. If it does occur, you may need high-dose steroids and oxygen therapy in the long term.

- **Upper arm nerve damage:** For tumours close to the top of the lung, there is a very small chance of the radiotherapy damaging the nerves (brachial plexus) going to the arm. This may result in weakness, numbness, or swelling of part of the arm. The risk of this is very small, as great care is taken to avoid or minimise radiation doses to the nerves.

After treatment

After your treatment has finished you will return to the Outpatient Clinic for follow-up with your oncologist. Radiotherapy takes time to work and so it is at this appointment that your doctor will assess and discuss your progress. They will also talk with you about any continuing side effects and will plan future appointments.

It is common to feel tired after cancer treatment. Try to eat healthy balanced meals, drink plenty of fluids, rest as needed but aim to be physically active every day.

How to contact us

Lung Nurse Specialists: 0118 322 8994

Radiotherapy Department: Telephone: 0118 322 7872 (9am-5pm)

Or e-mail: radiotherapy.planning@nhs.net

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

Macmillan Cancer Information Centre: 0118 322 8700

Patient Advice & Liaison Service (PALS): 0118 322 8338

Useful organisations and websites

Macmillan Cancer Support 0808 808 2020 www.macmillan.org.uk

British Lung Foundation 03000 030 555 www.lunguk.org

The Roy Castle Lung Cancer Foundation 0333 323 7200 www.roycastle.org

NHS Smoking Helpline 0300 123 1044 <https://www.nhs.uk/better-health/quit-smoking/>

To find out more about our Trust visit www.royalberkshire.nhs.uk

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

Thames Valley and Wessex Radiotherapy Network, May 2023

Next review due: May 2025