Patient information factsheet

Lung stereotactic ablative body radiotherapy (SABR)

We’ve written this leaflet as a guide to stereotactic ablative body radiotherapy (SABR) in lung cancer treatment. We hope it will help to answer some of the questions you may have.

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 three, five or eight)
• smaller more precise radiation fields
• higher doses of radiation

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.

Planning your treatment

Your first appointment will be the planning appointment which includes a CT (computer tomography) scan of your chest in the treatment position. This CT scan is not a diagnostic scan and is used by your radiotherapy doctor to produce an individual radiotherapy treatment plan for you.

You will be asked to lie on your back. We will place your hands above your head and support them there. Radiographers will ensure that you are as comfortable as possible so that this position can be held each time you come back for treatment. It is very important that you let the staff scanning you know if you have any discomfort. The aim of the planning appointment is to find a position that you can tolerate and where you can keep still during subsequent treatment sessions.

A small monitoring device will also be placed on your chest that is linked to the scanner. This will monitor your breathing throughout the scan so we can see any changes in the tumour position during your breathing cycle. It is important that you are comfortable and that you are breathing normally. If you are in any discomfort during this process, please tell a member of the team.

After the scan, the radiographers will mark three to four small dots that are permanent tattoos on your skin. These are essential so we can reproduce your position when you have your treatment.

Having your treatment

SABR is usually given in three to eight treatment sessions. Each session will be at least a day apart (for example, Monday, Wednesday and Friday, with a rest at the weekend). Your radiotherapy doctor will be able to tell you how many treatments you will receive.

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.

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 (see below for the potential side effects).

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 may not be at the same time each day and are subject to change. We will give you as much notice as possible of any changes. It is possible that during your course of treatment you may miss a day’s treatment due to planned machine maintenance or bank holidays. This will not cause you any harm. It is therefore important to speak to a health care professional before booking a holiday immediately following your radiotherapy.

What are the potential side effects?

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 reactions

Some side effects occur during or up to 12 weeks after completion of your treatment. These are usually temporary. Side effects may include:

Skin reaction
During and after treatment the area of skin where you are having the treatment may change due to the radiotherapy. It may become a little pink, dry and/or itchy.

The following advice will help to reduce skin reactions:

• treat the area gently
• avoid vigorous rubbing and instead pat skin dry with a soft towel
• avoid very hot or very cold water when you wash
• use your normal washing products (don’t suddenly change brands or use a new product while you are having radiotherapy)
• do not use a lot of moisturiser and continue with a moisturiser that you have used previously
• wear loose fitting clothes made from natural fibers that will not irritate (such as cotton and wool)
• avoid exposing the area to the sun or cold wind

Tiredness (fatigue)
Radiotherapy can make you feel more tired than usual, especially if you have to travel a long way for treatment each day. You should try to ‘pace’ yourself, listen to what your body is telling you and try to keep active. Your energy levels may take weeks or months to return to normal. Ensure you drink plenty of fluids and rest.
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Cough
You may notice an increase in a dry or productive cough. This is due to the radiotherapy causing inflammation. This reaction should settle down when your treatment is over but if the cough is persistent, or you have any concerns, talk to the radiographers who can refer you to the doctor.

Chest wall pain
If your tumour is close to the chest wall, you may experience some chest pain following SABR. This is usually mild and relieved with simple painkillers such as paracetamol. If the pain is more severe, please seek advice from your radiotherapy team.

Shortness of breath and/or raised temperature
Occasionally radiotherapy to the lung can produce swelling (inflammation) in the lung tissue. This inflammation or ‘pneumonitis’ can cause symptoms of increased shortness of breath, wheezing, fever and cough. This usually appears 6 to 12 weeks after the treatment has finished. It can often be mistaken for a chest infection but it is not helped by antibiotics.

Pneumonitis is rare but, if you get these symptoms, please contact the acute oncology service at Southampton General Hospital on 07867 973649. If pneumonitis is suspected your radiotherapy doctor may start you on oral steroid tablets to help your symptoms and reduce the inflammation.

Late reactions
In addition to side effects occurring during treatment, some may occur soon after treatment, and some appear months or years after radiotherapy.

Lung scarring/collapse
Lung SABR treatment may cause scarring of the lung in the area where the cancer was treated. This scarring is permanent and may cause a small portion of the lung to collapse.

The precise planning of your treatment keeps this amount of lung scarring/collapse to a minimum. However, in some patients this scarring/collapse can make you become more short of breath. For patients not on oxygen before lung SABR, this may require you to have oxygen for a short period of time and in very rare cases you may need oxygen therapy permanently as a result of the treatment.

There are reports of a few patients who received lung SABR treatment where a collapse of a larger portion of the lung occurs. This can be life threatening but the risk of this happening is very small and the hospital has the expertise to deal with this.

Chest wall pain/rib fractures
For tumours close to the ribs there is a chance that the radiotherapy may weaken the ribs and cause pain and rib fracture. For most patients this does not cause any symptoms and is discovered when you have a scan after the treatment.

A small number of patients who have a rib fracture as a result of the lung SABR treatment can have pain that requires pain killers, sometimes for a long period of time.

Brachial plexopathy
For tumours close to the top of the lungs, there is a very small risk of the radiotherapy treatment damaging the nerves going to the arm. This would mean that there may be weakness or numbness in part of the arm which may be permanent. The chance of this happening is very small. Great care is taken when planning your treatment to avoid or minimise the doses of radiation to these nerves.

Second malignancy
Very rarely, people who have received treatment for one particular tumour may develop another type of tumour in the treated area some years later. The radiotherapy doctors will discuss this risk if it is relevant to you.
Student radiographers
We are a teaching hospital and we sometimes have students observing in the treatment room. Please tell the radiographers if you prefer not to have an observer with you.

Follow up
You will be seen in clinic two to six weeks after completing your treatment. If you have been referred to us from another hospital then after this appointment your follow up will be back with your local team.

Your radiotherapy doctor will discuss your follow up schedule with you, but generally you will be seen every three months for the first year after treatment. Thereafter, if all is well the frequency will decrease to six monthly appointments for up to five years.

Who to contact if you have concerns
If you have urgent symptoms relating to your current radiotherapy treatment, please call the acute oncology service at Southampton General Hospital on 07867 973649. This number is answered 24 hours a day, seven days a week, but is only for treatment-related symptoms and not for general queries such as rearranging appointments or hospital transport. If your symptoms are not urgent, you can speak to one of the radiographers when you attend for your radiotherapy treatment.

In an emergency call 999.

For any non-urgent queries e.g appointment time enquiries please contact the radiotherapy reception desk on 023 8120 8568

Useful organisations and websites

British Lung Foundation
Supports people affected by any type of lung disease.
Telephone: 08458 50 50 20
www.lunguk.org

The Roy Castle Lung Cancer Foundation
Provides practical and emotional support for patients and those affected by lung cancer and smoking.
Telephone: 0800 358 7200
www.roycastle.org

NHS Smoking Helpline
Offers free information, advice and support to people who are giving up smoking, and those who have given up and don’t want to start again.
Telephone: 0800 022 4332
www.smokefree.nhs.uk

Contact us
We appreciate and encourage feedback. If you need advice or are concerned about any aspect of care or treatment please speak to a member of staff or contact the patient support services:

Telephone: 023 8120 6325
Email: patientsupportservices@uhs.nhs.uk

If you need a translation of this document, an interpreter or a version in large print, Braille or on audio tape, please telephone 023 8120 4688 for help.