

# Stereotactic Ablative Body Radiotherapy (SABR): Lung

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## What is stereotactic ablative body radiotherapy (SABR)?

SABR is a modern technique which is a more effective way of treating small lung cancers, giving a high dose of radiotherapy to a small portion of the lung. It is a very precise treatment, with the same chance of curing or controlling early lung cancer as surgery.

It should be noted that SABR treatments can take between 40 and 60 minutes to deliver. You will be required to lie perfectly still on your back with your arms up above your head for this entire period. If you have any pre-existing conditions that would cause this to be painful (such as arthritis) we ask that you bring sufficient pain relief with you to cover this period.

## What are the benefits of SABR?

The possible benefits of SABR are:

- Increased chances of tumour control compared to standard radiotherapy
- Higher doses of radiotherapy per treatment resulting in fewer visits
- Advanced treatment techniques are used, sparing the normal tissues from higher doses of radiation and thereby minimising any side effects

## Planning your SABR treatment

Your SABR treatment is planned with the utmost precision. In order to achieve this level of precision you will be asked to attend the radiotherapy department for a specialist radiotherapy planning CT scan.

At this appointment you will be asked to lie on your back on the CT couch with your arms up above your head. A special device will be used to support your position and make you as comfortable as possible. If you find this position uncomfortable please inform the radiographers at this point as they can arrange for the appropriate medication to be prescribed.

You will be given a pair of video glasses to wear during this session. These glasses will show you a simple video that is designed to regulate your breathing. A small lightweight plastic cube will be placed on top of your chest to monitor your breathing during the scan.

Pen marks will be applied and small metal markers will be taped to your skin surface in order to aid in the planning of your treatment. After the scan these metal markers will be removed and you will have small permanent dots (tattoos) made on your skin. The tattoos will be used to accurately position you for your treatment each day.

# SABR Treatment

Unlike standard radiotherapy SABR treatments are not delivered daily. The treatment course will usually consist of between 3 and 8 appointments, with the treatments delivered on alternate week days over a period of 2 to 3 weeks.

At each treatment the radiographers will align you into the same position as when you had your CT planning scan. You will again be given a pair of video goggles to wear to help regulate your breathing cycle.

Once you are in the correct position, and the final checks have been completed, the radiographers will leave the room to start your treatment. You will be alone in the treatment room during your treatment, but the radiographers are watching you at all times using CCTV cameras and can communicate with you via a two way intercom system.

Before your treatment starts the radiographers will take CT scans to ensure the accuracy of your treatment. The treatment machine will move around you, but will not touch you at any point. You will not feel the radiotherapy treatment as it is given but the machine does make a buzzing noise and emits an audible warning beep to indicate that it is switched on. All you need to do during the treatment is keep still and follow the breathing instructions on the video glasses. Each treatment session will take between 40 and 60 minutes.

The radiographers will be directly outside of the room whilst you are having your treatment, and will explain to you how to alert them should you require assistance during your treatment.

## Side Effects of SABR Treatment

There will be some side effects which will gradually appear during your course of radiotherapy. These effects can vary from patient to patient. Not everyone will experience all of these effects. There are side effects that occur

during treatment, some happen soon after treatment, and some appear months or years after radiotherapy. The risk and severity of side effects occurring will depend on the dose delivered and the exact area which receives the radiotherapy. Your consultant will explain which side effects are most likely to affect you when they consent you for SABR treatment.

## Early Side Effects

These side effects may occur during radiotherapy or soon after you have finished your treatment.

### Skin changes

There may be reddening of the skin in the area being treated, and the area may feel warm to the touch. This is a normal reaction to the radiotherapy. Your skin reaction will be monitored daily by the radiographers who will advise you.

### How to look after your skin

- Wash your skin as normal, but pat your skin dry gently to avoid friction
- Avoid exposing the skin to the sun
- Avoid extremes of temperature on the skin e.g. heating / cooling pads
- If using a moisturiser on the skin try to use one that does not contain sodium lauryl sulphate
- Drink plenty of fluids
- You can continue to wear your normal deodorant

### Fatigue - Tiredness

Fatigue is a very common side effect of radiotherapy treatment, particularly towards the end of treatment. The fatigue may even continue for several weeks after your radiotherapy has finished. Do not worry, this is a normal reaction. We advise that you do as much as you feel you can and to rest when you are feeling tired.

## Cough

You may notice an increase in a dry or productive cough. This is due to the radiotherapy causing inflammation, but this reaction should settle down when your treatment is over. If the cough is persistent, or you have any concerns, talk to the radiographers or care team who can refer you to the doctor.

## Chest pain

You may develop pain or aches in the area being treated due to the radiotherapy causing inflammation of the tissues. This is usually mild and relieved with simple pain killers. If you develop severe pain that is troubling you, please speak to one of the radiographers.

## Breathlessness

Radiotherapy to the lung may cause inflammation in the lung tissue. Due to this inflammation or "pneumonitis" you may develop symptoms of increased breathlessness, wheezing or cough towards the end of treatment or after treatment has finished. This should get better on its own within a few weeks.

## Hair loss

There may be a temporary loss of chest hair (in male patients) in the area treated. This is a normal reaction. The hair usually grows back within a few months once the treatment is over. However, sometimes hair loss may be permanent, depending on the dose of radiotherapy given.

## Late Side Effects

### Lung scarring / collapse

Lung SABR treatment will cause scarring of the lung tissue in the area where the cancer was treated. This scarring is permanent and can 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 and collapse can make you become more short of breath.

## 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 or rib fracture. For most patients, this does not cause any symptoms and is discovered when you have a scan after the treatment.

## 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. The chances of this happening are very small. Great care is taken when planning your treatment to avoid or minimise the doses of radiation to these nerves. Your consultant will explain the risk of this in more detail if it applies to your treatment.

## Second cancers

There seems to be a slightly higher risk of developing another cancer in those people who have had successful treatment with radiotherapy or chemotherapy than there is in the rest of the population. It is not always clear whether this is due to the treatment or if it would have happened anyway. The risk of a second cancer later in life is considered minimal compared to the risk you would face if your cancer is not treated as well as possible with the appropriate methods now.

## When You Have Finished Your Radiotherapy

The effects of the radiotherapy may continue to worsen for up to 14 days after you have completed your course of treatment. You should continue to follow any advice you have been given by your radiographers during this period.

You will be given an appointment to see your Oncologist 2 to 6 weeks after you have finished your radiotherapy treatment. For certain radiotherapy follow up appointments you may be required to have a chest x-ray an hour before your appointment. If your follow up is in Exeter the X-Ray Department (Medical Imaging) is located in Level 1 Area M.

**Please remember, the radiographers are here to help you throughout your treatment and will do their best to ensure that side effects are minimised and relieved whenever possible. Please ask if you have any concerns or questions, or would like further information and support.**

**After care: ..... 01392 402147**

**Radiotherapy Review Radiographer:  
..... 01392 404589**

**Lung Clinical Nurse Specialist Team:  
..... 01392 402168**

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