Stereotactic Ablative Radiotherapy (SABR) to the chest

Information for patients

Northern Centre for Cancer Care
Freeman Hospital
Introduction

This leaflet gives you general information about Stereotactic Ablative Radiotherapy (SABR) to the chest. If you have any further questions relating to your treatment, please do not hesitate to ask your stereotactic radiographer or your oncologist at the Northern Centre for Cancer Care (NCCC)

Before starting your treatment it is important that you understand about the possible side effects of the treatment.

Our team approach

Before offering you this treatment, your case will have been discussed by a number of specialists in a multidisciplinary team at your local hospital, who have referred your case to the specialist SABR team at NCCC. You will meet an oncologist at NCCC who specialises in SABR treatment who will be able to tell you more about the treatment.

Your oncologist will be in overall charge of your care, but you will meet many members of the team during your planning and treatment. We all work together to give you the best possible care.

The stereotactic radiographer will keep you fully informed at all stages along your planning and treatment journey.

What is Stereotactic Ablative Radiotherapy (SABR)?

Stereotactic Radiotherapy is the use of x-rays to treat tumours. It works by damaging tumour cells in a way that may stop them from growing or cause them to die. It is a very accurate way of giving x-ray treatment to small areas of the chest. This allows us to use smaller beams in fewer treatment sessions than with standard radiotherapy.

Stereotactic Ablative Radiotherapy (SABR). What does it involve?

Radiotherapy can be divided into two stages: the Pre-treatment Planning Stage and the Treatment Delivery Stage.

Pre-treatment Planning

This is the first stage where your individual treatment plan is developed. It will involve a long visit to the department where you will have a number of procedures carried out. You will first go to the Mould Room where you will have an immobilisation device made called a ‘vac bag’ made to help you stay in the treatment position. This is a device that it made to mould around your shape, the process involves withdrawing the air from a sealed bag of pellets (similar to a bean bag) which causes the bag to mould itself to your shape. This takes approximately 20 minutes. You will lie on the vac bag whilst having a CT scan and for your treatment; this is to ensure that you are comfortable and that your position is reproducible when you attend for treatment.
After your vac bag has been made, you will have two scans carried out. These take images of your lungs the whole of your breathing cycle.

The information from the scans is used to determine the exact part of the lung that needs to be treated. Each scanning procedure can take up to 20 minutes.

As part of the pre-treatment planning process the radiographers will need to take some measurements and put small permanent marks on your skin using ink and a small needle. These are the reference marks which are used to position you every time you attend.

Throughout this process the stereotactic radiographer and SABR team will be present to answer any additional questions you may have.

**Producing your treatment plan**

Before you begin your treatment, the SABR team will need to design an individual plan for you. All of your imaging information will be entered into a planning computer, the oncologist will identify the area that needs to be targeted with the X-rays and will also identify important structures that we want to avoid treating. The SABR team will then design your individual plan and select the best way to treat you.

**When will I start my treatment?**

Treatment will start approximately two weeks after your planning visit. In some instances we may need to make small changes to your treatment plan.

**Treatment delivery**

A couple of days before your treatment commences, you will be asked to attend a trial set-up. This is to ensure that the treatment we have planned for you can be delivered accurately and no significant changes have occurred since your treatment was planned.

The treatment is usually divided into three to five sessions over the course of five to ten days. You will usually have treatment on alternative days. However, this may change.

You will have your SABR treatment on a machine called a linear accelerator. This is a type of x-ray machine. The staff who operate these machines are called therapy radiographers.

In the treatment room you will be asked to lie on the treatment couch on your vac bag. The radiographers will ensure that you are in the same position as you were for your planning scan. When the radiographers are confident that you are in the same position, they will leave the room and the treatment will start. You will be closely monitored on the closed circuit TV cameras at all times.

The machine will move around you at intervals. The radiographers may come into the room to re-position the machine for different beams. They will keep you informed throughout the treatment of what is going on. The treatment will usually take between 30 and 45 minutes. It is painless and you should feel no different immediately after treatment delivery.
What is the review process for SABR patients?

You will be reviewed each time you come for treatment by the SABR team. This is routine and nothing to worry about. It is an opportunity for both you and the team to discuss your well being.

Side effects during and after treatment

Not everyone will experience all of the side effects that are mentioned in this guide. Patients can react differently to the treatment.

Early effects (During or up to 12 weeks after your treatment)

- **Tiredness or fatigue:**
  The treatment may make you feel tired. This usually happens gradually as the treatment progresses and may last several weeks after your treatment.

- **Chest pain:**
  If your lung tumour is close to the chest wall then you may experience pain after your radiotherapy treatment. This is usually mild and relieved with simple painkillers such as paracetamol. If the pain is more severe please contact the SABR team.

- **Skin Reactions**
  During treatment (often after the first three treatments) your skin where you are receiving radiotherapy might become slightly red, dry and itchy, not unlike sunburn. If your skin becomes uncomfortable ask your radiographers for advice.

- **Shortness of breath and/or raised temperature:**
  Occasionally, radiotherapy to the lung can produce inflammation in the lung tissue. This inflammation or ‘pneumonitis’ can cause symptoms of shortness of breath, wheezing, fever or cough usually six to 12 weeks after the treatment has finished. It can often be mistaken for a chest infection and antibiotics do not help.

  Pneumonitis is less common with SABR than with standard radiotherapy. However, if you get these symptoms please contact your clinical oncologist, stereotactic radiographer, or specialist nurse (if this occurs after treatment) as you will need to be seen in clinic as soon as possible.

  If it is suspected that you might have pneumonitis, you may be prescribed steroids to help your symptoms and reduce the inflammation.

- **Difficulty in swallowing:**
  This is uncommon with lung SABR compared to standard radiotherapy. However, if you do get these symptoms try eating soft foods. Drinking plenty of fluids should also help. We may prescribe painkillers to enable you to continue eating and drinking normally.
Late effects

- **Lung scarring/collapse:**
  A common effect of SABR treatment in the past has been scarring of the lung or eventual collapse of a portion of treated lung; this collapse generally affects only a small portion of the lung, but appears to be permanent. Every effort will be made to reduce the risk, but if this happens, you may have shortness of breath at rest or during exercise and may need to receive oxygen. In rare instances, the use of oxygen therapy may be needed permanently as a result of SABR.

- **Chest wall pain or rib fractures:**
  For tumours close to the ribs there is a small risk that SABR may weaken the ribs and cause pain or even a rib fracture. For most patients this does not cause any symptoms and is discovered incidentally. A small number of patients with rib fractures as a result of lung SABR can have pain that requires taking pain killers.

- **Brachial plexopathy:**
  For tumours close to the top of the lungs, there is a very small risk of damage to the nerve bundles going to the arm (brachial plexopathy). This means that part of the arm may result in numbness or weakness. The chances of this happening are very small. Great attention is taken when planning the treatment to minimize the dose of radiation to these nerves.

Follow up

The stereotactic radiographer will phone you at home approximately two weeks after completing your treatment. If you are worried about your side effects then we can arrange for you to come in and see one of the SABR team.

You will have a routine follow up appointment with the SABR team at NCCC around four to six weeks after finishing your treatment. You will then be referred back to your original team (where you were first seen) who you will usually see every three months or so for the first year.

You will need to have CT scans to monitor your progress after the SABR. It is usual to have scans 6, 12 and 24 months after finishing your treatment.
Useful contact telephone numbers

Stereotactic Radiographer: **0191 2448718 (9.00am – 5.00pm)**

SABR Team Secretary: **0191 2138692 (9.00am – 4.00pm)**

If there is an urgent problem within the first week, then contact the wards at NCCC at any time on:
- **Ward 34:** 0191 2137034
- **Ward 35:** 0191 2137035

Alternatively call the Freeman Hospital main switchboard on **0191 233 6161** and ask to be put through to ward 34 or 35

Newcastle upon Tyne Hospitals NHS Trust:
- Main switchboard: 0191 2336161
- [www.newcastle-hospitals.org.uk](http://www.newcastle-hospitals.org.uk)

Northern Centre for Cancer Care
- Macmillan Information and Support Centre
  - Direct line: 0191 2138611 (voicemail service if out of hours)
  - Open Monday to Friday from 9.00am to 4.30pm

Macmillan Cancer Support
- Freephone 0808 808 0000
- [www.macmillan.org.uk](http://www.macmillan.org.uk)

Maggies Centre (Newcastle)
- 0191 2336600
- e-mail [newcastle@maggiescentres.org](mailto:newcastle@maggiescentres.org)

The Patient Advice and Liaison Service (PALS)
- Can offer on-the-spot advice and information about the NHS. You can contact them on freephone 0800 032 02 02 or e-mail [northoftynepals@nhct.nhs.uk](mailto:northoftynepals@nhct.nhs.uk)

If you would like further information about health conditions and treatment options, you may wish to visit the NHS Choices website at [www.nhs.uk](http://www.nhs.uk).

On this website there is an information prescription generator [www.nhs.uk/ips](http://www.nhs.uk/ips) which brings together a wealth of approved patient information from the NHS and charity partners which you may find helpful.

For other support services, please use the following link to NCCC’s webpage in order to access a directory of support groups, organisations and useful contacts.
- [http://www.newcastle-hospitals.org.uk/services/cancer_more-support-for-you.aspx](http://www.newcastle-hospitals.org.uk/services/cancer_more-support-for-you.aspx)

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