

PATIENT INFORMATION

Stereotactic Ablative Body Radiotherapy for Cancers in the Lung



1. Introduction

The Sydney South Western Local Health District provides Cancer Services for residents of South West Sydney. This includes Surgery, Radiotherapy, Chemotherapy and Palliative Care. Facilities for Radiotherapy and Chemotherapy treatment exist at the Liverpool and Macarthur (Campbelltown) Cancer Therapy Centres. Chemotherapy is also available at Bankstown and Southern Highlands Cancer Centre.

This booklet is designed to provide you with information about Stereotactic Ablative Body Radiotherapy (SABR) for cancers in the lung. This may be a cancer which arose in the lung (primary lung cancer) or may be a secondary deposit in the lung from another primary cancer (metastasis). The information is general and may not specifically apply to your treatment. If you have any concerns please consult your Radiation Oncologist.

2. What is SABR?

SABR is a way of giving highly focussed radiotherapy to small cancers whilst sparing radiation dose to normal tissues. It involves higher doses of radiation than conventional radiotherapy in fewer (1-6) treatment sessions. It is treatment which is given for specific cases of cancers in the lung, and is not suitable for the majority of cancers in the lung.

3. Radiation Therapy Planning and Treatment

Prior to treatment your radiation oncologist will organise for you to have a radiotherapy planning session (**CT simulation session**). This can take up to **1 hour**. You will be asked to lie flat on your back with your arms above your head on the CT couch and a 'bean-bag' device (**bodyfix**) will be created for you to lie on and keep you stable. A series of measurements will be taken from your chest area by the radiation therapists. Two CT scans will be performed. The first is similar to CT scans you have had in the past and may involve intravenous contrast (x-ray dye injected in your vein). **If you have an allergy to iodine, contrast dye or seafood then you need to inform us.** The second scan is longer and you will wear a special belt around your abdomen which helps to measure your breathing. Occasionally, we may need to use an 'abdominal compression device' which puts pressure on the abdomen to make your breathing shallower.

You will be given up to 3 small permanent tattoos in the skin in your chest area, similar in size to a freckle to make sure the same area is treated each time. Once you have gone home, your treatment is planned on computer by our radiotherapy team and physics staff, then checked by your treating doctor.

A Radiation Therapist will contact you to attend a **pre-treatment session** in the treatment room. You will be positioned on the treatment couch as if you are having treatment and a CT scan will be taken. This is to check that the radiotherapy planning is correct and that the cancer's size and position have not changed and is still suitable for SABR. No radiotherapy treatment is given during this visit.

SABR treatment to the lung generally involves 1 – 6 visits to the hospital. Normally you will wait your turn in the waiting room and then change into a gown when asked by the

radiation therapy staff. You will then wait in the waiting area for your treatment machine. When the Radiation Therapists are ready for you they will call you into the treatment room where you will be asked to lie on the treatment couch. The actual radiation treatment is given by trained Radiation Therapists. Generally the treatment takes about **30-45 minutes** in total. Most of the time in the room will be spent making sure that you are in the correct position and ensuring that the same area receives radiation each session. The radiation therapists will be taking images (CT scans) before and during treatment to check that the correct area is being treated. You will not feel anything during your actual treatment. Treatment is given on weekdays 1 to 2 days apart. The machine staff will inform you of any changes to your treatment schedule.

A radiation oncologist will attend your first treatment session and will see you during your course of treatment. The Cancer Therapy Centre nurses or care-coordinators may check on you from time to time during the week(s) of your treatment and may give you advice in regards to the side-effects of the treatment. You will be able to drive yourself to treatment and continue working during treatment.

4. Side Effects of Radiotherapy

Radiotherapy works by killing cancer cells using high energy x-rays. The normal cells in the area being treated are also affected. This causes side-effects. However, normal tissue cells have a greater capacity to recover from the radiation compared to cancer cells. The gap between each day of treatment allows the normal cells to recover. The following is a list of possible side effects that may be experienced.

It is very important that you **STOP SMOKING** during treatment. Smoking during radiotherapy increases the chance of side-effects from treatment and can also reduce the chances of being cured from your cancer. Speak to your doctor about how to quit smoking.

Early Side-Effects

These side-effects occur during radiotherapy and are usually resolved in the weeks following the end of treatment. Most patients experience very few early side effects.

Tiredness

Fatigue or feeling tired is a common side effect of treatment. The amount of tiredness varies from person to person. If you do feel tired, limit your activities, and do what is most important to you.

Nausea

This is uncommon but may occur if the cancer is in the lower lobes of the lung. Medication can be given to relieve this if this occurs. These include **Metochlopramide (Pramin or Maxolon)**, **Prochlorperazine (Stemetil)** and **Ondansetron (Zofran)**. Speak to your doctor if you are feeling nauseous. The Dietician can also give you advice on how to manage your nausea.

Skin redness

Some patients get some redness on the chest wall. Try to avoid using any soap in this area as this can worsen the skin reaction. Your skin may also feel itchy during treatment. Salt water baths are helpful in relieving itch. Creams such as **Sorbolene** may also help relieve skin symptoms. Rarely the skin may break down (ulcer) but this will heal with dressings.

Difficulty swallowing and heartburn

You may develop heartburn like symptoms and have difficulty swallowing (it may feel like you have a lump in your throat when you swallow). Heartburn can be treated with **Mylanta** or **Gaviscon**. A **dietitian** can give you advice on suitable foods to eat while you are on treatment.

Long Term Side-Effects

The radiation has to travel through some of your normal tissues to get to the area that is being treated. These tissues are damaged by the radiation but usually recover. However sometimes radiation can cause permanent changes in your body. You may not have any symptoms from this. Occasionally these changes can cause side-effects months to years after radiotherapy. Your radiotherapy is planned in a way to reduce the chance of any long term side-effects.

Shortness of breath

After treatment (1-6 months) some patients may develop inflammation of the lung which is called radiation pneumonitis. Symptoms of this include increasing shortness of breath, cough and fever. This side-effect is uncommon with SABR because the treatment is highly focussed. If it does occur, it is temporary and can be treated with medications. Very rarely, it can be severe and require hospital admission. If you develop these symptoms, please see your radiation oncologist.

Chest wall pain/ Rib fracture

A fracture of the ribs in the treated area may occur months to years after radiotherapy. This may not cause any symptoms and only be seen on CT scans or it may cause pain. Pain can also occur due to inflammation of nerves in the chest wall in the treated area. Treatment is with pain relief medications. See your radiation oncologist if you have pain in your chest.

Scar tissue on your lung / lung collapse

SABR will cause some scarring in your lung. This may not cause any symptoms and just be seen on CT scans. This scarring can make it difficult to see whether the cancer has become smaller after the radiotherapy. Sometimes it can cause shortness of breath in the longer term (> 6 months). This is more likely in patients who continue to smoke or have lung disease such as emphysema.

Arm numbness and weakness

Arm numbness and weakness is a rare side effect sometimes seen in patients who have had radiotherapy to cancers in the upper lobes of the lung. This is due to damage to the nerves which run to the arm. Radiotherapy can sometimes damage these nerves which may leave the arm weak and numb and affecting function of the arm and fingers. See your radiation oncologist if you experience numbness or weakness in your arm after treatment.

Developing a second cancer

Radiation exposure can cause cancer. The risk is extremely small (less than 1 in 1000 patients) and would usually take more than 10-15 years to develop. The chances of your cancer recurring without radiotherapy are higher than the risk of developing a cancer from radiotherapy.

Pregnancy (if applicable)

It is very important that you do not become pregnant whilst you receive radiotherapy. Radiation will cause damage to a developing foetus. You must tell your radiation oncologist before you receive radiotherapy if you are pregnant or may be pregnant.

5. Follow-up after treatment

The purpose of follow-up after SABR treatment is to

1. Recognise and treat any side-effects from treatment
2. Provide support to you and your family
3. Diagnose and treat any cancer recurrence

After treatment you will be followed up by your Radiation Oncologist. Visits are usually scheduled at 3, 6, 9, 12, 18 and 24 months. After this, the visits are yearly. A CT scan is usually performed at the 3, 6, 12, 18 and 24 month visits, then yearly. Other types of scans may also be performed if required.

6. Helpful Sources of Further Information

You may find the need for further information. Cancer Council Resource books & other information are available at the Cancer Council Resource Centre in the reception areas of Liverpool and Macarthur Cancer Therapy Centres. The Support & Information pack you will receive as a new patient contains helpful information for you to keep.

Books that may be helpful

- Understanding radiotherapy NSW Cancer Council
- Food and Cancer NSW Cancer Council

Websites and Organizations that may be helpful

SSWLHD Cancer Services

<http://www.sswlhd.nsw.gov.au/cancer/>

NSW Cancer Council

<https://www.cancercouncil.com.au/>

NSW Cancer Institute – Treatment protocols

<https://www.eviq.org.au/>

US National Cancer Institute

<https://www.cancer.gov/types>

UK cancer information site

<http://www.macmillan.org.uk/Home.aspx>

American Cancer Society

<http://www.cancer.org/cancer/lungcancer-non-smallcell/detailedguide/non-small-cell-lung-cancer-treating-radiation-therapy>