

# Treating Lung Tumours with Stereotactic Body Radiotherapy (SBRT)

## For patients with lung tumours

Read this pamphlet to learn about:

- The main steps in planning SBRT radiation treatment
- Common side effects
- What happens when you finish treatment
- Where to get more information

Radiation therapy is the use of a high energy x-rays to kill cancer cells. For more information on Radiation Therapy, please watch our [patient education videos](#). These videos:

- Give a step-by-step guide to the radiation therapy treatment process.
- Explain how radiation works in the body.
- Shows how your health care team works to give high quality treatment.



## **What is Stereotactic Body Radiotherapy (SBRT)?**

SBRT is a treatment that uses radiation to damage cancer cells. It is different from regular radiation therapy because it uses:

- very high doses of radiation
- fewer treatments
- careful positioning and imaging

By making sure that your body stays in the correct position during the treatment, doctors and radiation therapists can focus radiation on the tumour and avoid healthy areas of the body. Imaging is done using a “cone-beam CT” on the treatment unit before you receive your radiation. The cone-beam CT takes pictures from many different angles and combines them to create a 3D picture of the lungs. Doctors and radiation therapists use the 3D picture before treatment to confirm where the tumour is in the body and exactly where the radiation will be delivered.

## **What is SBRT used for?**

SBRT can be used to treat:

- early stage lung cancer
- or**
- metastases to the lung (when cancer spreads to the lung from another area of the body)

SBRT treatment has been very successful in controlling early stage lung cancer and metastases to the lung.

## Planning your radiation therapy

### What happens during a treatment simulation appointment?

Before your radiotherapy treatment begins, you will have a “treatment simulation” or “simulation” appointment. This appointment takes about 45 minutes.

At this appointment, two radiation therapists ask you your date of birth to make sure you are the correct patient. Then they use a CT scan to take many pictures of your lungs. They also take measurements that help to plan your treatment.

**Radiation therapists** are specialists who work the machines that take images and give radiation treatment.

### Where do I go for my simulation appointment?

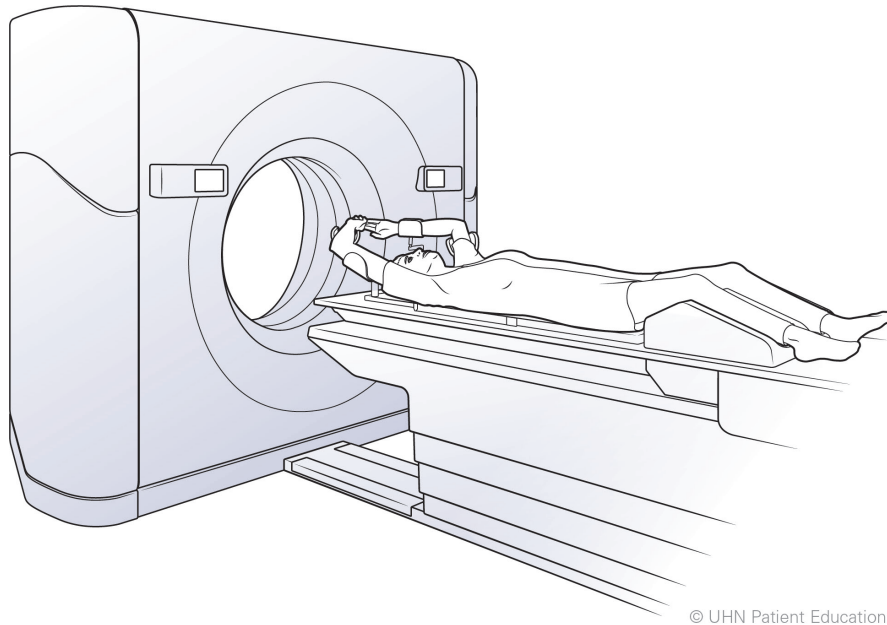
- This appointment is at the Princess Margaret Cancer Centre. Check in at the reception desk on level 1B.
- The receptionist will take a picture of you. This picture helps identify you throughout your treatment.

### Having the CT Scan

In the simulation room we ask you to lie down on a bed. Behind the bed is the CT scanner.

- The radiation therapists help position you on the bed.
- We ask you to raise your arms over your head. There are supports to hold your arms in place and make this more comfortable.
- The radiation therapists place a belt on your stomach that tracks your breathing. This belt checks how much your chest moves each time you breathe, and provides information to help plan your treatment.
- A CT scan is then taken of your lungs.

This is what the simulation room looks like:



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To be sure SBRT targets only the tumour, your health care team needs to be sure you do not move during treatment.

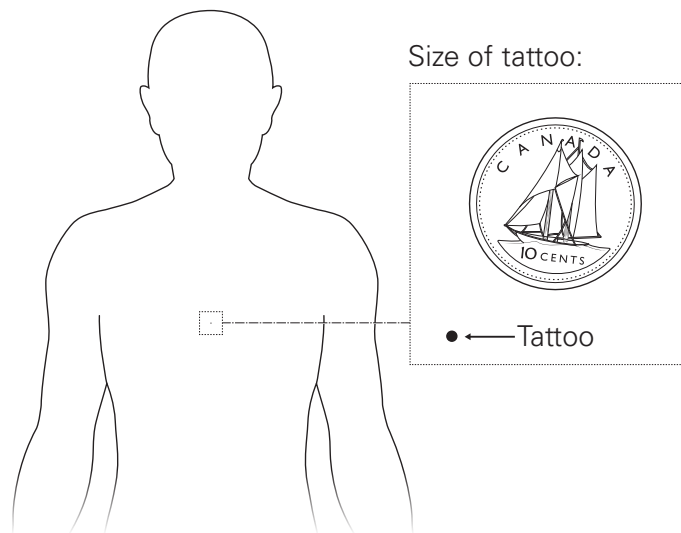
When people breathe their lungs move up and down in their chest. This can cause the tumour to move. If the tumour moves a lot when you breathe, we use “abdominal compression belt” to reduce movement. The belt has thick Velcro that wraps snugly around your torso and an inflatable pouch that puts pressure on the abdomen to keep you from taking very large breaths.

Here is what the abdominal compression belt looks like:



To make sure the right area is treated, the radiation therapists need to draw marks on your skin.

- Once they decide where the marks should be, they give you very small “tattoos” on your chest.
- These tattoos are tiny black dots (like small freckles) that help to make sure the machines line up in the exact same spot each time you come for treatment.
- These tattoos are permanent. You can shower and bathe normally and do not have to worry about them washing off.

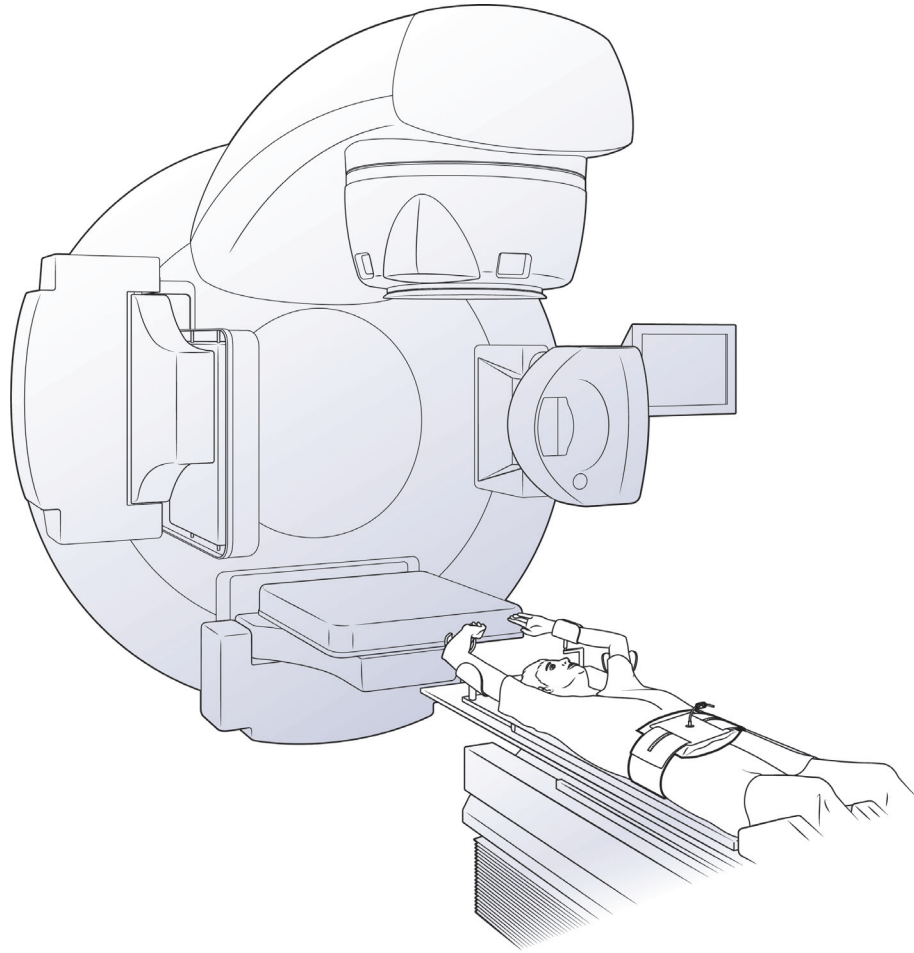


Sometimes patients have a “trial setup” appointment. This appointment is like a rehearsal, or practice session to check the setup of the equipment.

### **What to do on the day of treatment:**

- Eat and drink normally.
- Check into level 2B reception.
- Change into a hospital gown.
- Do not remove clothing from the waist down.
- Do not wear jewelry, such as a necklace.

This is what the treatment room looks like:



When you come into the treatment room, the radiation therapists again ask you your date of birth. They ask you to lie down on the treatment bed and get you in the right position for treatment.

- The treatment bed is like the simulation bed. It has supports to hold your arms in place.
- The abdominal compression plate is also put in place for some patients, if needed. You may feel some pressure from the plate.
- The radiation therapists then use your tattoos as a guide to move the bed into the right place.

The radiation therapists leave the room before treatment begins. There is a camera inside the treatment room and a two-way intercom system to check on you during treatment.

Once they leave the room, you will have a cone-beam CT scan to make sure everything is lined up properly.

## How long is the treatment?

The CT scan and treatment takes about 30 to 45 minutes. It may be tiring to hold the correct position during this time. But, it helps make sure the treatment targets only the tumour.

## How often do I have treatment?

You come back for this treatment 1 to 8 times, either every day or every other day. This depends on your treatment plan.

You see your radiation oncologist in Review Clinic once a week.

## Some common side effects to expect from SBRT

Many people who have SBRT do not feel any different than usual. Side effects depend on where the tumour is and how much radiation you had. This is different for every person.



**Call us if you have any of these side effects below. We can help you cope with your side effects.**

### **Short-term** (less than 6 weeks) side effects

- fatigue (feeling tired)
- skin rash

### **Possible medium** (6 weeks to 9 months)

- lung inflammation or radiation pneumonitis**

For every 100 patients who have treatment, 5 will get radiation pneumonitis. This is when the lung becomes inflamed. It can cause cough, fever and shortness of breath.

## **Possible long-term** (longer than 6 months)

- chest-wall pain**
- broken ribs**
- lung fibrosis**

Most patients have scarring in the lung after treatment that can be seen on a CT scan. This is called “fibrosis”. It does not cause any symptoms and probably will not affect your breathing.

## **What happens after I finish treatment?**

- After you finish your radiation treatment you still have CT scans done regularly.
- You have follow-up appointments with your radiation oncologist, who reviews these images.
- Your radiation oncologist also asks you about any side effects from the therapy and helps you manage them.
- You might have “Pulmonary Function Tests” before your appointments. These tests use breathing exercises to see how much air your lungs can hold.

## **When are my follow-up appointments?**

Your first follow-up appointment will be:

- 3 months and 6 months after treatment is finished
- then about every 6 months for 2 years
- then every year

If you ever have side effects in between your appointments, you can make an appointment to see the radiation oncologist sooner.



## For questions or more information call:

The SBRT Lung Clinic at Princess Margaret Cancer Centre

Phone Lung Clinic: 416 946 2250 ext. 1 for (PFC line) and ext. 2 (Triage line)

Website: <https://www.uhn.ca/PrincessMargaret/Clinics/Lung>

You can call your lung radiation doctor with further questions.

## Where can I find more information?

Watch patient education videos: [www.whattoexpectrt.theprincessmargaret.ca](http://www.whattoexpectrt.theprincessmargaret.ca)

## Patient and Family Library

Visit the Main Floor, Princess Margaret Cancer Centre for reliable, up-to-date health information for free in a variety of languages.

Phone: 416 946 4501 ext. 5383

Email: [patienteducation@uhn.ca](mailto:patienteducation@uhn.ca)

Website: [https://www.uhn.ca/PrincessMargaret/PatientsFamilies/SpecializedProgram\\_Services/Pages/princess\\_margaret\\_patient\\_family\\_library.aspx](https://www.uhn.ca/PrincessMargaret/PatientsFamilies/SpecializedProgram_Services/Pages/princess_margaret_patient_family_library.aspx)

## Search [UHNpatienteducation.ca](http://UHNpatienteducation.ca) for the following pamphlets

- What to Do When Finishing Radiation Therapy?
- Using Your Energy Wisely: for patients with cancer-related fatigue
- Know About the Active Breathing Coordinator (ABC) Device



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