

## Radiotherapy

# Stereotactic ablative body radiotherapy (SABR) for tumours in the abdomen

## Information for patients, relatives and carers

This leaflet is specifically for people with cancer in the abdomen (liver, kidney, pancreas or adrenal glands). SABR treatment is tailor-made for your specific needs. So, it may differ slightly from the description in this leaflet.

It may also be different to what another patient with a similar diagnosis is having. If you have any questions, please do not hesitate to speak with the team. See contact numbers at the end of this leaflet.

### What is SABR?

SABR is a type of radiotherapy, which is a treatment that uses high energy x-rays to treat tumours. SABR lets us give accurate radiotherapy to small tumours in the body. You need fewer treatment sessions compared to other radiotherapy regimens and it increases our chances of controlling the tumour. The aim is usually to destroy the entire tumour.

We carefully calculate doses of radiation and direct them exactly at the tumour(s). We avoid as much of the normal tissue as possible, which can mean less side effects. However, it can affect some healthy tissue and you might experience short-term side effects.

When recommending radiotherapy, your doctor has considered the risk of the tumour returning or growing if you don't have radiotherapy. The treatment may have some side effects, but the doctor thinks the benefits outweigh the risks.

### What are the alternatives?

You can decide that you don't want to have radiotherapy. You can talk to your doctor about all your options, including not having radiotherapy. Then you can tell them what you've decided.

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You might want a second opinion on your diagnosis or treatment. You can do this at any time during your consultation and treatment process. Please speak to your clinical oncologist or GP about how to do this.

## Important information before starting radiotherapy

### Pacemakers and implanted cardiac devices (ICDs)

- please tell us if you have a pacemaker or ICD but did **not** tell your clinical oncologist when you signed the radiotherapy consent form. Use the number at the end of this leaflet to phone the department.
- it is safe to give radiotherapy to patients who have a pacemaker but there are a few precautions we might need to take. You might need to come to some extra appointments.
- please bring your pacemaker ID card to your CT planning scan appointment

### Pregnancy

- all female patients under the age of 55 will be asked to confirm their pregnancy status before the first planning session starts
- it is very important that you are not pregnant and do not become pregnant during radiotherapy planning and treatment
- if you think you could be pregnant at any time during your treatment, please tell your clinical oncologist or radiographer immediately
- if necessary, please speak to your doctor about contraception you can use during radiotherapy

## The radiotherapy process

We have explained the process simply and then in more detail below.

- all patients give their consent to radiotherapy in an outpatient clinic. We provide radiotherapy information leaflets at this consultation
- we book your radiotherapy appointments. We confirm these by letter. We might also ring you and send an SMS (text) message to your phone.

Please note, staff cannot take responsibility for patient belongings brought into the hospital. **So always keep all your personal belongings with you. Leave valuables at home.**

### 1) Pre-treatment appointment and planning CT scan

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You will need to have a pre-treatment planning CT scan appointment. A CT (computerised tomography) scan makes detailed pictures of the inside of your body using a very small amount of radiation. This usually takes 40 to 60 minutes.

## **2) Planning MRI scan**

You **might** also need to attend the MRI (magnetic resonance imaging) scanner for a pre-treatment planning MRI scan appointment. An MRI uses magnetism to make pictures of the inside of your body. This usually takes 60 minutes.

## **3) Planning your radiotherapy treatment**

We use the CT and MRI scans to plan your treatment. This planning usually takes 3 to 4 weeks. You don't need to come to hospital during this time.

## **4) Practice session**

- we might give you an appointment at the hospital for a practice session, called a simulated treatment session
- this usually takes 1 hour
- we don't give you radiotherapy at this session
- we might need to prescribe medications to make your treatment easier

## **5) Treatment**

- you will usually come in for 3 to 5 sessions, this will depend on your prescribed number of treatments
- we do a CT scan at every treatment session to confirm your position and make sure we deliver your treatment accurately
- each session takes about 30 to 60 minutes
- once your treatment is complete, we will give you information about follow-ups at the outpatient clinic

## **Your pre-treatment appointments**

- your pre-treatment appointments include a CT planning scan and possibly an MRI planning scan. You will need to go to the CT scanner located in the radiotherapy department at Charing Cross Hospital, and the MRI scanner located in the imaging department at either Charing Cross Hospital or Hammersmith Hospital
- you are welcome to bring someone with you to these appointments. However, only you will be allowed in the scanner rooms
- a member of the pre-treatment radiotherapy team will explain what is going to happen

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- you will get another opportunity to discuss your treatment and side effects before going ahead with the treatment preparation
  - if you have questions for the oncologist, a radiographer can organise a meeting for you
  - we will also confirm that you still consent to have the treatment

## Your pre-treatment planning CT scan

On the day you come in for your planning CT scan you might need to fast for 2 hours before the appointment time. This is to make sure that your stomach is in the same position for the scan and treatment.

### How a CT scanner is used in your treatment

- a CT scanner is a specialised X-ray machine
- it produces a series of detailed pictures showing the area to be treated and surrounding tissues
- the scans are sent to a computer that makes the pictures into a 3D image
- the radiotherapy team use this image to accurately target your radiotherapy

### Contrast agent

- contrast agent is a fluid that shows up on X-ray images. It allows the tumour and surrounding tissues to show up more clearly.
- if we use the oral contrast to help the scan, you will either drink it, or have an injection through a small tube (cannula) in your skin
- we will assess you and decide whether you should have it, as it can cause side effects for a few people. If you don't have it, your treatment planning will still be accurate

### Getting into position for your CT scan

- the radiographers will position you for your radiotherapy treatment.
- it is important that you are comfortable lying in the planned position for up to an hour, as you will have the same position for your radiotherapy treatment – the CT scanner couch is the same type of bed that you lie on for your treatment sessions
- we use a vacuum bag mould to keep you still and in the right position

- we might use a specific technique known as “abdominal compression” for scanning and treatment.
  - for this, you will lie on your back, with arms above your head and a large belt around your abdomen, which will make your breathing shallower. This will not stop you from breathing
  - we use this equipment to reduce how much your organs move while you’re breathing. It might be a bit uncomfortable but is not painful to fit and you would wear it for every treatment.



**Treatment position modelled by Trust staff model on the Trust radiotherapy CT scanner**

- If you have any pain or difficulty keeping your arms above your head (due to arthritis for example), please tell your clinical oncologist.
  - Taking painkillers 30 minutes to one hour before the planning appointment and treatment sometimes helps. We can prescribe painkillers if you need them.

### **During your CT scan**

- we will monitor your breathing during the scan. We do this using a small device on your lower chest.
- the radiographers will go in and out of the room several times during the procedure. You will hear them talking over you during the setting up process

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- the radiographers can always hear and see you. So, if you need to communicate with them, call out or wave your arm
  - we will do two CT scans. The radiographers will give you breathing instructions that you must follow:
    - The first scan holding your breath
    - The second scan breathing normally

### **After your CT scan**

- at the end of the session the radiographers will put two or three permanent ink dots (tattoos) under your skin around the area to receive treatment. They will ask your permission first
- these marks will not come off your skin, but they might fade over time
- radiographers on the treatment units will use these permanent dots to make sure that you are correctly positioned on the couch at each visit. This will make sure your treatment is accurate
- very occasionally, radiographers may take a digital photograph of you. This is to show clearly how you are positioned on the couch. They will ask your permission before taking the photograph

Your CT scan appointment will take about 60 minutes.

## **Your pre-treatment planning MRI scan**

If you need a planning MRI, we will do this with you in the same position and with the same equipment used during your planning CT scan.

If we asked you to fast before your planning CT scan, we will ask you to do it before your planning MRI scan.

Your MRI scan appointment will take about 60 minutes.

## **Planning your radiotherapy treatment**

After your planning scans, your oncologist will review the detailed images. They will define the exact area that needs to be treated. Planning radiographers and physicists do the rest of the planning.

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## Advanced planning technology

We use RapidArc™ radiotherapy technology. This is an advanced method of planning and delivering your treatment. It allows us to use precise radiation beams that target your tumour, while limiting the amount of radiation that reaches the surrounding healthy tissues.

The plan will then go through an extensive checking procedure.

Your clinical oncologist will then check and sign off the plan. The entire planning process can take up to 4 weeks.

## Your practice session

A couple of days before your treatment starts, we might need a practice session in the radiotherapy department. We will tell you if you need one and book an appointment for you. One reason could be to make sure you can stay in the treatment position.

We will talk to you about your treatment, give you a list of your appointments and information about the sessions. You might want to write a list of questions that you have and ask them at this session.

**If you don't have a practice session, you'll still have time to ask questions before your treatment.**

## Your treatment

- if you were asked to fast for your CT scan, you will also have to fast for each treatment session
- if you were asked to drink oral contrast during your pre-treatment appointment, you will also need to before each treatment session – the team will tell you when
- the radiographers will call you into the treatment room (this is a different room to the CT scan)
- they will introduce you to the team members and ask you to lie on the treatment couch
- the radiographers will then begin to line you up in the same position you were in for your CT scan. Your permanent ink dots will help them do this
- they will check your position and make small adjustments. As a result, the treatment couch may move slightly during the treatment process
- the radiographers can always see you. So, if you need to stop the treatment and communicate with them, raise your arm

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- when you are in the right position, they'll raise the treatment couch. It will be quite high up (about 1.4 meters or 4'7" ft.). So, it is very important you do not move or try to get off the couch
  - the radiotherapy treatment machine rotates around you in an arc to deliver your treatment. This allows the radiation treatment to be delivered quickly and precisely
  - you should not feel pain during the treatment delivery. But if you are uncomfortable in the treatment position, please tell the radiographers
  - the whole procedure will take about 30 to 60 minutes. Getting you into the correct position takes up most of this time. Though you will need to stay still most people find they can manage this.
  - once the treatment is finished, the radiographers will lower the couch and tell you when it is safe to sit up and get off

## Are there any side effects?

Modern planning techniques have helped us to reduce treatment reactions. But some people do have side effects. Radiotherapy side effects are closely related to the exact area of your body where you are treated. The doctor will explain them to you in clinic.

As your treatment progresses the radiographers will talk to you each day to find out how you are feeling. This is so they can offer help and support if the treatment gives you any problems. Please tell them anything you're worried about.

You might start having short-term side effects during your treatment and these can continue for up to 12 weeks after the end of your radiotherapy. After that they should begin to slowly improve. If are concerned at any time, please contact the Macmillan cancer navigator service using the telephone number on page 9. The most common side effects during or shortly after SABR are:

- tiredness
- skin changes
- feeling sick (nausea)
- being sick (vomiting)
- tummy ache (abdominal pain)
- indigestion

Your oncologist will talk to you about these side effects and how to manage them in your first appointment. They will also tell you about any other specific side effects that you might have later on, which can happen weeks to months after you had SABR treatment.

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## What happens after completing your radiotherapy?

- the radiographer will make sure you have a follow-up appointment. This will usually be an outpatient consultation in the 4 to 6 weeks following treatment
- in due course, your GP or referring consultant will be sent a letter by post summarising your treatment in more detail.

**Please remember: you can contact the radiographers at any time after your treatment has finished if you have any concerns or questions.** Use the numbers for the radiotherapy department on this page.

Please don't book a holiday too close to the end of your treatment. This is in case the treatment doesn't finish on the date originally listed on your appointment schedule. This also allows you time to recover from any side effects you could experience during this time.

## Useful telephone numbers

Radiotherapy reception: 020 3311 1737

Radiotherapy bookings: 020 3311 1612

## Further sources of support and information

### **Macmillan cancer navigator service at Imperial College Healthcare NHS Trust (ICHT)**

This is a single point of contact for ICHT cancer patients and their families, helping you to navigate your care and resolve queries that you may have. Our Navigators can access information about your appointments, connect you to appropriate services and signpost you on to further support. They can additionally book you in for a telephone call back from your Clinical Nurse Specialist (CNS) if you have a query that requires clinical input.

The service is open Monday to Friday 8:30 to 16.30 (excluding bank holidays).

Call: **020 3313 0303**

### **Macmillan cancer information and support service at Imperial College Healthcare NHS Trust (ICHT)**

The Macmillan information and support service provides free, confidential support and information to anyone affected by cancer. Our service offers the opportunity to talk to one of our team one-on-one about whatever matters most to you, as well as a range of weekly virtual groups that provide the opportunity to connect with other patients in a relaxed environment.

Our Macmillan welfare and benefits adviser can offer ICHT patients tailored advice on additional financial support.

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We have physical centres at Charing Cross and Hammersmith Hospitals. We offer virtual and telephone support.

The service is open Monday to Thursday (excluding bank holidays), with various drop-ins available within our physical centres.

For more information, please call us on **020 3313 5170** or email **[imperial.macmillansupportservice@nhs.net](mailto:imperial.macmillansupportservice@nhs.net)**

### **Maggie's west London**

Maggie's is a cancer charity that provides the emotional, practical and social support to people with cancer and their family and friends. The centre combines beautiful architecture, calming spaces, a professional team of support staff and the ability to talk and share experiences with a community of people who have been through similar experiences. Maggie's centres are warm, friendly and informal places full of light and open space with a big kitchen table at the heart of the building. Maggie's west London is in the grounds of Charing Cross Hospital but is independent of our hospital.

The centre is open Monday to Friday, 09.00 to 17.00.

For more information, please call 020 7386 1750.

### **Macmillan Support Line**

The Macmillan Support Line offers confidential support to people living with cancer and their loved ones. This support line is a national line provided by Macmillan and is independent of our hospital.

Call: 0808 808 000 (every day, 08.00 to 20.00) or visit [www.macmillan.org.uk](http://www.macmillan.org.uk)

## **How do I make a comment about my visit?**

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3312 7777** (10.00 – 16.00, Monday to Friday). You can also email PALS at [imperial.pals@nhs.net](mailto:imperial.pals@nhs.net) The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street  
London W2 1NY

Email: [ICHC-tr.Complaints@nhs.net](mailto:ICHC-tr.Complaints@nhs.net)

Telephone: **020 3312 1337 / 1349**

## **Alternative formats**

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This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team:  
[imperial.communications@nhs.net](mailto:imperial.communications@nhs.net)

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