Stereotactic Ablative Radiotherapy (SABR) to the liver

Information for patients
This leaflet aims to help you and your family understand more about your treatment for liver cancer. The treatment technique used is Stereotactic Ablative Radiotherapy (SABR).

This leaflet will be given in addition to the information you will receive from your clinical oncologist (who is a specialist doctor in cancer treatment). The clinical oncologist works with a team of people throughout your treatment including the cancer nurse specialist team and therapy radiographers. If needed, they can also refer you to other health care professionals.

If you hear any words or phrases that you do not understand, please ask your doctor or a member of your healthcare team what it means. It does not matter how many times you ask.

Staff will make every effort to meet your individual needs or will direct you to the person who can help.

All your radiotherapy planning and treatment will take place in the Radiotherapy Department on Level -2, Bexley Wing, Leeds Cancer Centre (LS9 7TF).

Please do not bring valuables into the hospital with you as the trust cannot accept liability for loss or theft.
What is Liver Stereotactic Ablative Radiotherapy?

Stereotactic Ablative Radiotherapy is the precise delivery of a high dose of radiotherapy to a tumour, delivered in a small number of treatments. For Liver tumours patients will usually receive a total of five treatments, delivered every day or every other day over 1 to 2½ weeks. Scans are taken prior to radiotherapy delivery to ensure accurate treatment.

Treatment appointment times are approximately 45 minutes long.

Radiotherapy is the use of carefully controlled high energy X-rays to treat cancer. Treatment is given in such a way that it destroys cancer cells while doing as little harm as possible to normal cells. When you have your Radiotherapy you do not feel anything and it does not make you radioactive. It is perfectly safe for you to be with other people, including children and pregnant women, during the course of your treatment.

You will have your radiotherapy on a treatment machine called a linear accelerator as shown here in the photograph.

If you would like to visit the radiotherapy department before starting treatment, please call 0113 206 7603. This visit can be very useful as you can find out more information about radiotherapy, visit the
hospital, tour the simulators and treatment areas and ask questions.

'I was so pleased to see the machines before my treatment and the staff were so helpful and really put my mind at rest.'

**Therapeutic Radiographers**
Radiotherapy is given by male and female therapeutic radiographers. You will see two radiographers at each treatment session and they will be happy to answer any questions you may have.

**Students**
The radiotherapy department is a training centre for male and female therapeutic radiographers. They are supervised at all times. If you do not wish students to be present, please speak to a member of staff. This will not affect your treatment or care.

**Pregnancy**
It is very important that women are **not pregnant** at the start of a course of radiotherapy and that they **do not become pregnant** during a course of radiotherapy because it can have an effect on the unborn child. Use an effective form of contraception, for example condoms, coil, depot injection or contraceptive pill.
For more information see the ‘Contraception and pregnancy during cancer treatment’ leaflet. Please do not hesitate to ask your doctor or nurse if you have any questions or concerns about these issues.

Planning your treatment

Your case will have been discussed at a Specialist Multi-disciplinary Team meeting to ensure that radiotherapy is the best treatment option for you.

Planning your treatment is a lengthy process, requiring several appointments.

Your first appointment

Your clinical oncologist or a member of their team will discuss your proposed treatment and provide written information.

You may be referred to the dietician and, if required, to a Hepatologist (a specialist in the management of Liver diseases).

Contact details for the Clinical Nurse Specialist (CNS) team will be provided.

Your treatment will be explained and you will be asked to sign a consent form for radiotherapy treatment at the first appointment, or a subsequent visit if other tests or results are needed.

If you require any additional medications to take during Radiotherapy this will be explained (for example: tablets to prevent nausea or to protect the stomach/bowel lining).
For some patients a Dimercaptosuccinic Acid (DMSA) scan to assess kidney function may be required - the Nuclear Medicine department will contact you with details of this appointment if it is required.

**The MR and Radiotherapy planning scans**

To plan your treatment accurately you will need a Radiotherapy Planning CT Scan and possibly an MRI scan which may be on the same day and will take a minimum of 2-3 hours.

The Radiotherapy booking office will contact you to give details of this appointment.

This scan is for planning treatment only, and you will not be given a report from this.

The Radiotherapy planning scan will take place in the Radiotherapy department on Level -2. For this scan you should not eat or drink for two hours before your appointment.

**Deciding the most suitable position for your treatment**

To deliver treatment accurately you will be carefully positioned for treatment. This position must be comfortable enough to enable you to stay in position for up to an hour at a time. Usually patients will lie on their back, with arms above their head, in a custom made support (see photo above).

A gown will be provided for you to wear during the scan, usually the top half of your clothing must be removed.
If you think you may have difficulty keeping your arms above your head, for example if you have arthritis, please discuss this with your clinical oncologist. Painkillers ½-1 hour before each treatment can help. Your clinical oncologist can prescribe these if needed.

Some other devices may be required for scanning and treatment:

- An ‘Abdominal Compression’ device. This is used to reduce the amount your liver moves during your normal breathing. It is not painful to fit, and if suitable will need to be used every day when you have your treatment.

- A ‘Breath hold’ device. An alternative way to reduce your liver movement is through a device which helps you hold your breath for small periods of time. If we think this might be useful we will coach you in its use and check it can be used both comfortably and reliably.

The Radiotherapy Planning CT scan

After a short rest period you will return to the scanner for your radiotherapy planning scan and will be positioned exactly as before. You will be asked to hold your breath for short periods of time during this scan (even if a ‘Breath- hold’ device is not used) - we will give you advice on how to manage this.
The radiographer will use a skin marker to mark your skin. You may need up to four permanent skin marks; these marks are no bigger than a freckle.

A contrast agent, often called a dye, may be used. In some cases this can make it easier for the doctor to plan your treatment.

The contrast dye is given by inserting a small needle into your vein to inject it into your bloodstream. You should tell the radiographer if you have any allergies, but they will go over this before they use any dye.

*The most common side-effects of the dye are:*

- Warm or hot ‘flushed’ sensation during the injection.
- A ‘metallic’ taste in the mouth, which usually lasts less than a minute or so.
- You may also feel as if you have passed urine however this will pass very quickly and it should cause no ill effects.

There is a slight risk of an allergic reaction to the injection, such as a skin rash, or other more serious reaction although this is rare. The staff in the radiotherapy department are trained to deal with any complications.

A belt will be placed around your abdomen which is attached to the scanner. This monitors your breathing throughout the scan to help the team plan your radiotherapy.

You will be asked to drink a small amount of water just before the scan starts.
Once you are in a suitable position the radiographers will take one or two CT scans to allow planning of your radiotherapy treatment. You will be able to drive your car or go to work after your scan.

The Radiotherapy Planning Magnetic Resonance Imaging (MRI) scan

If an MRI scan is required, the Radiographers will attend the scan with you. You will be repositioned in exactly the same way as for the CT scan and will be given breathing instructions. Once again, you may require a dye to be injected.

Planning scans are not diagnostic images and are not reported on.

Your treatment appointments will be confirmed when you attend for your radiotherapy planning scan.

The ‘Day Zero’ appointment

A few weeks after the CT planning scan your Liver SABR treatment course will be ready to start. One or two days before your first treatment you will be asked to attend for a ‘dummy run’ session, also known as a Day zero. This will be on the radiotherapy treatment machine that will be used for your treatment.

The purpose of this appointment is to check that the treatment is able to be delivered accurately. You will be positioned as before and a number of check scans will be taken and reviewed by the team at this appointment.
Your next appointment will be your first SABR treatment and will take around 45 minutes.

**Having your treatment**

You will be required to fast two hours before every treatment and drink a cup of water just before your treatment starts.

A team of radiographers work together in the treatment room and you will hear them giving each other instructions and information relating to your treatment.

The radiographers will position you as before, moving the treatment couch and machine to direct the treatment at the cancer. The Radiographers will always take several ‘scans’ in the treatment room that they use to assess accuracy. You will notice the machine rotating around you several times for these scans and for treatment. It will pass close to you, but never touch you.

It is important that you stay as still as possible and continue to breathe normally. The radiographers will leave the room whilst you are having treatment but will be monitoring you on the closed circuit TV monitors.

There is an intercom system so the radiographers can talk to you when you are being treated, some patients find this reassuring, please let us know if you would like us to do this.

As your last day of treatment may be flexible it is important that you speak to the radiotherapy team before booking a holiday immediately following your treatment.
The radiographers will monitor your side-effects throughout your treatment course and arrange for you to see a doctor in clinic if needed. Most patients will have blood tests during treatment.

Your end of treatment follow-up

One to two weeks after treatment
You will receive a telephone call from a member of the Clinical Nurse Specialist team.

Four to six weeks after treatment
You will have an outpatient appointment at Level 1, Bexley wing St James’s to discuss any side effects and request post-radiotherapy scans.

Three months after treatment
You will have a CT and/or MRI scan followed by an Out-patient appointment once the results are available. Your doctor will advise you regarding further follow-up.

If you are concerned about side-effects or new symptoms please contact the CNS team on the number provided.
Side-effects of treatment

You may experience some side-effects during or following your radiotherapy. Some side effects such as fatigue can last for some time after treatment. Please tell the radiographers how you are feeling, particularly if your symptoms worsen, so that we can provide the care you require.

Early Side-effects include:

Skin reaction

You may develop some redness or sensitivity of the skin in the treatment area. You will be given a leaflet ‘Skin care during radiotherapy which will give you more information about this. Another leaflet ‘Skin care after radiotherapy will give you information on how to care for your skin after your radiotherapy. The radiographers will give you this leaflet when you have finished your course of treatment.

If you are concerned about your skin reaction please talk to the treating Radiographers or contact the nursing staff in Princess Royal Suite on 0113 206 7587

Nausea or Vomiting

This may occur at any time during the treatment course. Medication to be taken before or after treatment may be provided.

Change in Bowel Habit

This also may occur at any time during the treatment course. Drinking plenty of liquid throughout the day will be useful in replacing lost fluids. Please tell the staff if symptoms continue.
General tiredness (fatigue)
Radiotherapy can make you feel more tired than usual, especially if you have to travel a long way for treatment each day. Fatigue can last for some time after treatment, but most patients notice it gradually improves with time. Advice on managing fatigue will be provided.

There are things you can do to help yourself:
- We recommend that you continue with all your usual activities, as you are able but the following may help;
- Light exercise can help reduce the symptoms of fatigue.
- Having enough to drink can prevent tiredness from dehydration.
- Small meals or snacks eaten more often than three times a day may help if you have a reduced appetite.
- Try to get a good night’s sleep where possible, a daytime nap may help.
- Try to ‘pace’ yourself, listen to what your body is telling you, rest if you need to.
- Pick out the things that you enjoy, and try to ask for help with other tasks.
- Little and often is the rule of thumb.

The Macmillan information leaflet ‘Coping with fatigue’ will be provided by the CNS team.
Longer term side-effects

These side-effects are rare, but may be permanent. Your doctors will discuss any that are relevant to you and the risk of these happening when you consent for treatment. These depend on the exact area being treated within the liver. Steps are taken by your doctor to keep the risk as low as possible.

These side effects may include:

- Liver and/or kidney damage
- Damage to stomach/bowel - such as inflammation, ulceration or bleeding
- Chest wall discomfort or pain
- Lung inflammation
- Unexplained bruising/bleeding.

If you experience any of these side effects, or have any concerns following treatment, please contact your CNS team.

Your Clinical Nurse Specialist team

Direct Line Telephone - 0113 206 8601
Monday - Friday 9.00am - 4.00pm

An answer phone is available - please leave a message.
Useful organisations - Local

Leeds Cancer Support

Leeds Cancer Support at St James’s Institute of Oncology in Bexley Wing is here to help you and your family. We aim to offer high quality information, advice and support, to patients, families and friends.

The two information lounges both open from Monday - Friday.

_They are situated on:_

Level -2 Radiotherapy Department, 8am – 6pm
Tel: 0113 206 7603

Level 1 Westmoreland Outpatients Unit, 10am – 4pm
Tel: 0113 206 8816

The Robert Ogden Macmillan Centre

The Centre is on the St James’s Hospital site and offers a variety of support services including counselling, support groups and complementary therapies. You can just drop in for a coffee and a chat anytime. Open from 10am-4pm Monday to Friday. Telephone: 0113 206 6499

All the Information Care and Support Services mentioned above can be contacted by email on:
leedsth-tr.Cancersupport@nhs.net
The Patient Hotel, Bexley Wing
The Hotel is located on Level 8 in Bexley Wing. Patients and a relative, can stay here during treatment if required.

For further information please telephone 0113 206 7687 or discuss with your Nurse Specialist team.

Useful organisations - National

Macmillan Cancer Support
Freephone 0808 808 0000 9am to 6pm Mon-Fri.
A textphone service for deaf and hard of hearing people is on: 18001 0808 808 0000.

website: www.macmillan.org.uk or
email: cancerline@macmillan.org.uk