

Stereotactic Ablative Radiotherapy (SABR) to the liver

Information for patients



Leeds Cancer
Centre

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).

It will be given in addition to the information you will receive from your clinical oncologist (who is a specialist doctor in cancer treatment). Their team will be caring for you during your treatment. This team will include radiographers and clinical nurse specialist, but may also include social workers, physiotherapists, occupational therapists and dietitians.

The leaflet describes radiotherapy planning and treatment. It also explains the side-effects which you may experience during and after treatment.

Each person's treatment will vary, so the information given is a general guide. The healthcare team looking after you will explain your treatment and the side-effects in detail. If you have any questions after reading this leaflet, please speak to the team looking after you or ring the numbers at the end of leaflet. 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).

Radiotherapy reception Tel: 0113 206 8940

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 over 2 ½ to 4 weeks. Treatment is not given during the weekends, and it will usually be given to you as an outpatient.

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 people, 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.



Visiting us before your treatment

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.



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

Who will I meet?

Therapeutic radiographers

Radiotherapy is given by therapeutic radiographers of any gender, who are highly trained in the accurate planning and delivery of radiotherapy treatment. You will see your radiographers at each treatment session and they will be happy to answer any questions you may have.

Student radiographers

The radiotherapy department is a training centre for 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.

Others involved in your care

You may meet other staff whilst you are coming for radiotherapy. Everyone you meet will introduce themselves, tell you their job title and explain the role they have in your care.

Important advice before your treatment

Pregnancy

It is very important that patients of childbearing potential 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, depo 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. You will have to attend several appointments, i.e. one or two 'preparation' visits which include the planning scans (CT and possibly MRI too). Some visits take a few hours.

Your first appointment

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

You may be referred to the dietitian 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. This could be at the first appointment, or during a visit afterwards if other tests or results are needed.

What to bring with you:

- A list of all questions you may have.
- An up-to-date list of all the medications you are taking (including inhalers, sprays, vitamins or herbal products).
- Any medication that you may need during your visit.
- Something to eat and drink and something to occupy yourself with as this first visit can be quite lengthy (may be several hours).

If you need any additional medications to take during radiotherapy this will be explained, for example: tablets to prevent nausea (feeling sick) or to protect the stomach/bowel lining.

Some patients may need a 'Dimercaptosuccinic Acid' (DMSA) scan to assess kidney function - the Nuclear Medicine department will contact you with details of this appointment if it is needed.

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. This will take a minimum of 2-3 hours.



We will contact you by phone, with an appointment for your planning session. Directions to the hospital and transport arrangements will be discussed with you at this point.

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. Taking painkillers 30 minutes to 1 hour before each treatment can help. Your clinical oncologist can prescribe these if needed.

Another device may be required for scanning and treatment, called an **'Abdominal Compression'** device (see photo).

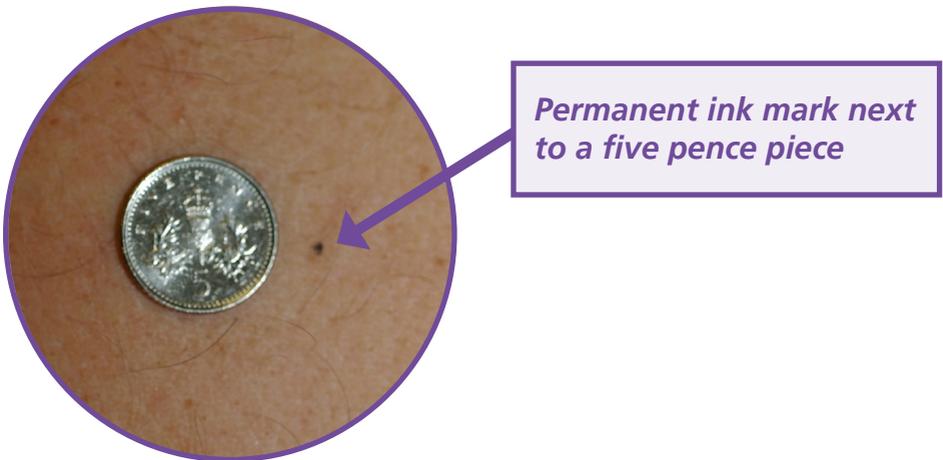
This is used to reduce the amount your liver moves during your normal breathing. It is not painful to fit, and if suitable will need to be used every day when you have your treatment.



Your Planning scan

After a short rest, or on another visit to the department you will return to the scanner for your radiotherapy planning scan. You will be positioned exactly as before. You will be asked to hold your breath for short periods of time during this scan. 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.



These permanent marks help us to ensure that you are in the same position each day. It also means that you can wash without worrying about your marks coming off.

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.

Contrast (dye)

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 dye is given through a very small plastic tube called a 'cannula' into a vein in your arm. You should tell the radiographer if you have any allergies, but they will go over this before they use any dye.

Contrast side-effects

You may notice a warm feeling throughout your body and have a metallic taste in your mouth. You may also feel as if you have passed urine. This will pass very quickly. There is a slight risk of an allergic reaction to the injection, such as a skin rash, but this very rarely may lead to other complications.

The staff in the radiotherapy department are highly trained to manage any complications and again the risk involved is very small.

Once you are in a suitable position the radiographers will take one or two CT scans. Again, this is so that your radiotherapy treatment can be planned.

You will be able to drive your car or go to work after your scan.

The Radiotherapy Planning Magnetic Resonance Imaging (MRI) scan

A second scan, an MRI scan (see photo), may be required to help plan your radiotherapy. This usually takes place on the same day after the CT scan described above, or on a different day. We will try to arrange for the two scans to happen on the same day when it is possible to do so. Therefore please allow 2-3 hours for the entire procedure. The MRI scan can take up to one hour. You will need to undress and put on a gown. For the MRI scan you will lie in the same position in the 'bean bag' as you did during your CT scan.



Planning scans are for the purpose of preparing and planning your radiotherapy treatment only. They are not reported on like other scans you may have had, and so you will not be given the results of your planning scan.

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

The 'Day Zero' appointment

A few weeks after the planning scans 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 happen 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, and that you are able to manage the treatment procedure. You will be positioned as before. 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 need to fast two hours before every treatment and may need to 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 check for accuracy. You will notice the machine rotating around you several times for these scans and for treatment. It will pass close to you, but will 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 (CCTV) monitors.

The machine stops automatically after your prescribed dose of treatment has been given. The radiographers can stop the machine at any time if needed. The treatment machine makes a buzzing sound when switched on. You do not feel anything.

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.

The radiographers may need to come in and out part way through each treatment.

After the treatment is complete the radiographers will come back into the room and help you off the couch.

There may be occasions where the team decides that treatment cannot be safely delivered. This is not an uncommon occurrence and happens due to day to day changes in the position of your internal organs. It is nothing to be concerned about. If this happens the radiographers will rearrange a suitable treatment appointment with you.

Your last day of treatment may be flexible, therefore 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. You will have a blood test between your third and fourth treatment to ensure that it is safe to continue.

On some days the radiotherapy department may be busy and there may be a delay before your treatment. We will keep you informed of any delays, please see the delay signs in the waiting areas.

Your treatments will generally be on the same machine, although there may be days when this machine is being serviced and your treatment will be in a different room.

It is very important that you do not miss treatment days as it may make your treatment less effective. If you feel you are unable to attend for any reason please telephone us so that we can discuss this with you. If you have any queries about your appointment times please discuss these with the radiotherapy coordinators on your treatment unit.

For appointment queries please telephone the radiotherapy reception desk 0113 206 8940 for further advice.

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 Hospital) to discuss any side effects and to request any follow-up 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

Side-effects can be divided into short term (acute) effects, that happen during or soon after treatment, and long term effects occurring months or years later. Some side-effects are common, whilst others are rare.

The area and amount of treatment given to you will affect which side-effects are most likely to happen to you. Your oncologist will discuss this with you. If you develop any radiotherapy side-effects you will be given advice and support by your healthcare team.

Early Side-effects include:

Skin reaction

The skin in the treated area may start to redden or darken around 10 days after starting your radiotherapy. It may become dry and itchy. Avoid hair removal where possible, including shaving, waxing, cream and lasers unless advised otherwise by your consultant, nurse or radiographer.

Before you start your treatment, a radiographer will explain what could happen to your skin and how to look after it. They will also give you a leaflet to take home.

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 happen at any time during the treatment course. You may be given medication to be taken before or after treatment.

Change in Bowel Habit

This also may happen 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. The following may also 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.

Out of hours please contact the **Non-Surgical Oncology Nurse Practitioner** through main switch board on - **0113 243 3144**

Further information and support

If you have any questions please ask your hospital team. We all have our own ways of coping with difficulties.

Some people have a close network of family and friends who provide emotional support. Others would rather seek help from people who are not involved with their illness.

The following are also available as sources of information and support that you may wish to use.

Clinical Nurse Specialists (CNS)

Your CNS is available to discuss any aspect of your treatment with you. You will be seen by a CNS before your treatment. This is to offer support and advice about the practicalities and effects of your treatment and answer any questions you may want to ask.

Your CNS will also assess and discuss any physical, psychological, social, occupational and spiritual needs that you may have.

They can refer you to other services if needed, for instance, benefits advice. You will be given the CNS team contact details as a point of contact for support throughout your treatment.

Macmillan Specialist Radiographer and Macmillan Radiotherapy Nurse Specialist

Sometimes people need more help if they are feeling depressed, very anxious or are having problems with their treatment. If this is the case you may benefit from seeing the Macmillan radiographer or nurse specialist.

Your oncologist, radiographer or nurse can refer you at any point before or during your treatment.

Useful organisations - Local

Leeds Cancer Support

Leeds Cancer Support complements care provided by your clinical team. We offer access to information and a wide range of support, in a welcoming environment for you, your family and friends.

We can be found in the information lounges in Bexley Wing and also in the purpose built Sir Robert Ogden Macmillan Centre (behind the Thackray Medical Museum).

The Sir Robert Ogden Macmillan Centre

This centre offers a variety of free health & wellbeing and supportive therapies for patients, their family members and carers. These include hypnotherapy, mindfulness coaching, acupuncture (for hot flushes) and pilates.

Contact numbers for Leeds Cancer Support

Information Lounge Level -2 Radiotherapy Department

Open from 8.00am - 6.00pm Tel: **(0113) 206 7603**

Information Centre Level 1 Outpatients Department

Open from 9.00am - 4.00pm. Tel: **(0113) 206 8816**

Sir Robert Ogden Macmillan Centre

Open from 9.00am - 4.00pm. Tel: **(0113) 206 6498**

All the above services can be emailed on:

leedsth-tr.cancersupport@nhs.net

Maggie's Centre

If you or someone you love has cancer you may have lots of questions. Maggie's is a warm, welcoming place where you can meet people who are experiencing similar things to you.

You may also be able to find support groups specific to your needs and get advice and information from their professional staff.

You don't need an appointment and all support is free.
Open Monday to Friday 9.00 am - 5.00pm. Tel: **(0113) 457 8364**

Address: **St James's Hospital (next to the multi storey car park), Alma Street, Leeds LS9 7BE**

Email: **leeds@maggiescentres.org**

Website: **maggiescentres.org**

Stopping smoking

NHS Free Smoking Helpline: **0300 123 1044** Monday to Friday 9am to 8pm, Saturday and Sunday 11am to 5pm.

Website: **www.nhs.uk/smokefree**

Useful organisations - National

Macmillan Cancer Support

Freephone: **0808 808 0000**, 8.00am to 8.00pm seven days a week.
A textphone service for deaf and hard of hearing people is also available. Textphone: **18001 0808 808 0000**

Website: **www.macmillan.org.uk**



OUTpatients

A cancer support and advocacy charity for the LGBTIQ+ community.

Email: **contact@outpatients.org.uk**

Website: **www.outpatients.org.uk**

Car Parking

When you are coming for radiotherapy planning and treatment your parking is free in the on-site multi-storey car park. Please ask for more information at the radiotherapy main reception desk.

Refreshments

There is a restaurant and coffee shop available on Level 0, which are open daily. They serve drinks, light snacks and hot meals. Vending machines are also available in the main radiotherapy waiting room and Level 0. There is also a shop on Level 0 with books, papers and snacks.

Hotel Bexley Wing

Patients having radiotherapy or chemotherapy sometimes use the hotel if they have a long way to travel. The hotel is located on the 8th floor of Bexley Wing and offers 19 twin rooms and 1 single room. All have en-suite, tea and coffee making facilities, a mini fridge, towels, hairdryer and digital television. There are two rooms with wheel chair access and a wet room. Patients are able to stay free of charge. There is a charge for relatives if they are staying in their own room.

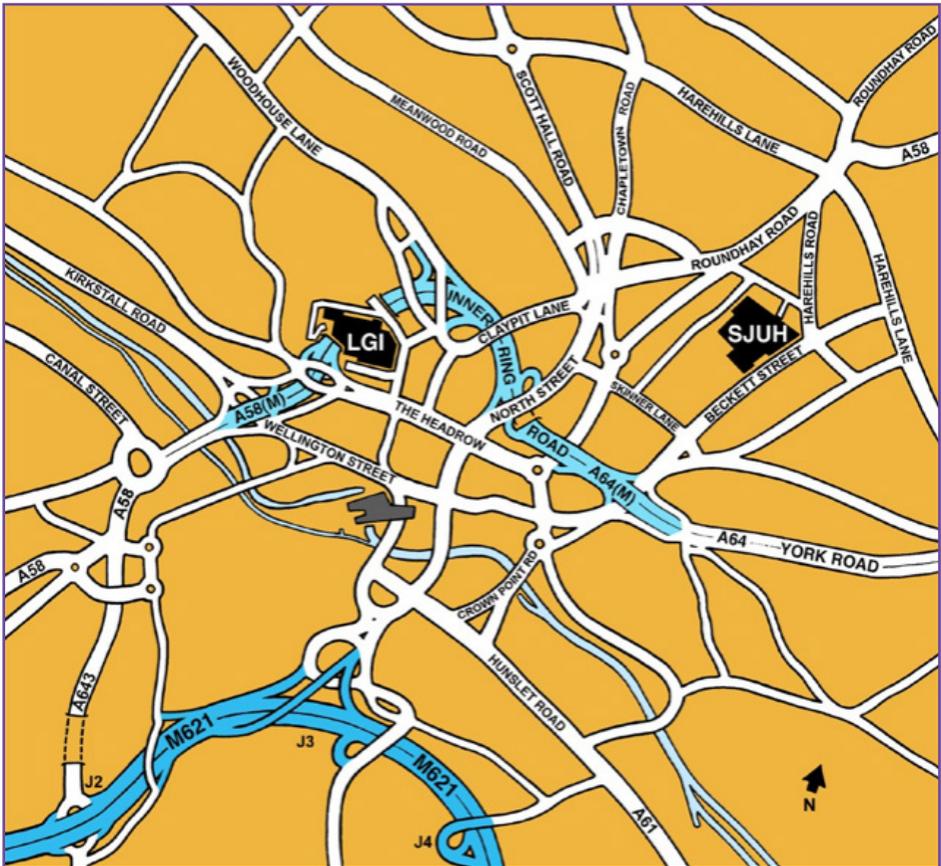
Meals can be purchased (at breakfast and lunch) if you are able to make your way to the restaurant in the Bexley atrium. At other times you will need to have something you have brought from home or purchased.

There is a very small fridge for your personal use. **There are no staff after 4pm until the next morning** in this facility.

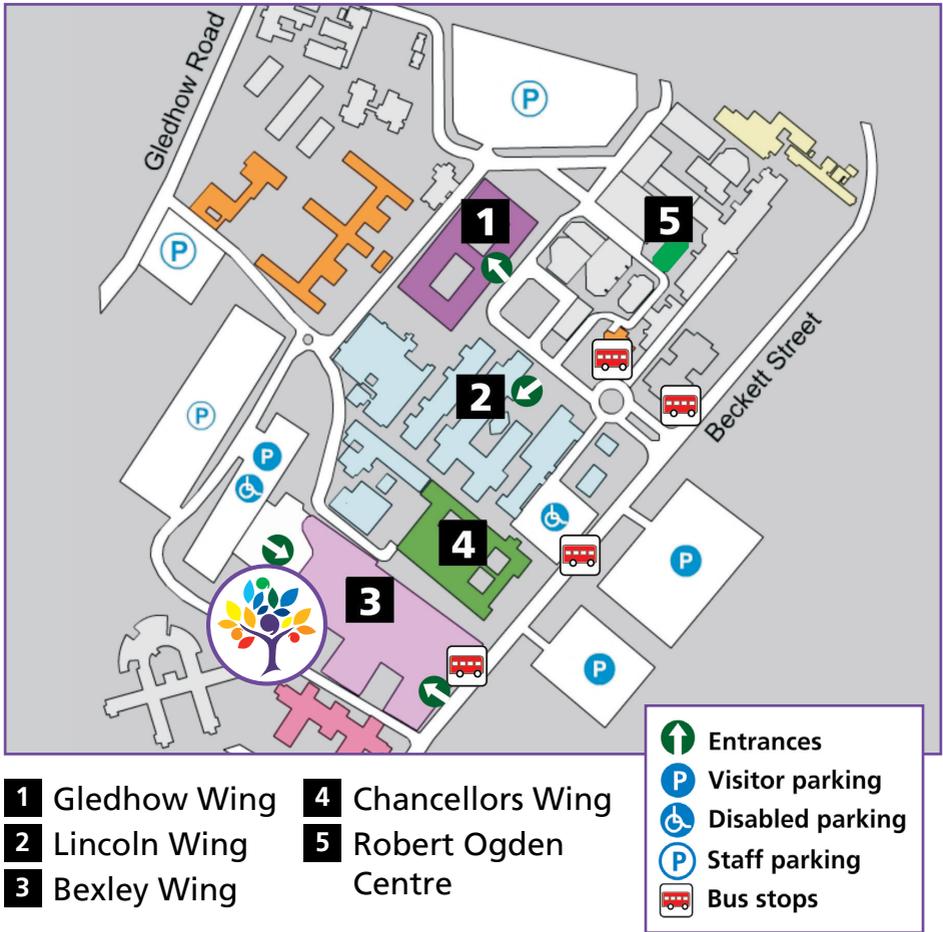
For further details please contact the Hotel Co-ordinator on **0113 206 7687**.

Out of hours please contact the Non-Surgical Oncology Nurse Practitioner through main switch board on **0113 243 3144**.

How to find us



St James's University Hospital



What did you think of your care? Visit bit.ly/nhsleedsfft
Your views matter

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