Stereotactic Ablative Radiotherapy (SABR) to the spine

Information for patients
This leaflet aims to help you and your family understand more about radiotherapy to the spine. 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 therapy radiographers and nurses.

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 any valuables into hospital with you as the Trust cannot accept liability for loss or theft.
What is Stereotactic Ablative Radiotherapy to the spine?

The spine is made up of a series of bones called vertebrae. Spinal SABR is a radiotherapy technique which delivers a high dose of radiotherapy to cancer in one or more vertebrae. Because a high dose of radiotherapy is given at each treatment visit, fewer treatments are needed in total but each treatment session will be longer than in standard radiotherapy treatment.

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 are having 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. You may hear a buzzing noise when the machine is switched on.

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.’
Radiotherapy is given by male and female therapy radiographers. You will see 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 radiographers. Male and female students may be present on the treatment units, and are supervised at all times. If you do not wish students to be present during your treatment 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. Please ask for the information leaflet from your healthcare team and do not hesitate to ask your doctor or nurse if you have any questions or concerns.

**Planning your treatment**
A clinical oncologist or a member of their team will discuss your treatment with you at your outpatient visit. It is a good idea to bring a list of any questions you may have and an up to date list of all your medication. You will be asked to sign a form giving your consent to treatment before you can begin radiotherapy. You will then have up to three visits to the radiotherapy department before you start treatment.

During these visits we will gather all the information we need to accurately plan and deliver your treatment.
Treatment position

The position you lie in to receive radiotherapy treatment will depend on what part of your spine is being treated. Patients receiving treatment to the lower two thirds of the spine will be asked to lie with their arms above their head. (shown here in the photograph). The radiographers will help you with this. The position is made more comfortable by using a custom made ‘bean bag’ to support your body.

Some patients find it difficult or uncomfortable to keep their arms above their head, especially if they have arthritis. If you think that this might be a problem for you, please discuss this with your clinical oncologist. Painkillers ½-1 hour before each treatment can help. Your clinical oncologist can prescribe these if needed.

Patients receiving radiotherapy to the upper spine, and some patients who are unable to keep their arms above their head, may be treated wearing a plastic mask, as shown in the picture.

The mask is made in a room known as ‘mould room’. Usually a sheet of plastic is warmed so that it goes floppy. It is then smoothed over your head and shoulders and goes hard as it cools down.
Patients who need a mask then wear this mask for their radiotherapy scans and during treatment.

If you have any concerns about the mask, please let your doctor or a member of the radiotherapy team know. We have a support team who will be able to help you.

**Your planning scans**

During your first appointment you will need to have a scan taken on a machine called a CT simulator. Once you are in a suitable and comfortable position the radiographers will take a CT scan which is used to accurately plan your radiotherapy treatment.

The radiographer may 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 (shown here next to a five pence piece) and will be used each day for your treatment.

A second scan, an MRI scan, is also usually required to help plan your radiotherapy. This may take place on the same day as 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. The MRI scan can take up to one hour. For the MRI scan you will lie in the same ‘bean bag’ as you did during your CT scan.

These scans are not a diagnostic scans and will not be reported on as such.
Before your first treatment is delivered, you will receive an appointment on one of our treatment machines. This appointment will be approximately two weeks after the CT and MRI scans described above. The purpose of this appointment is to make sure you are comfortable in the treatment position and to ensure that the treatment we have planned will be delivered accurately and safely. At this appointment the radiographers will perform a number of scans by rotating the treatment machine in a circle around you. The scan equipment will pass closely overhead but will not touch you at any point.

**Having your treatment**

A course of spinal SABR to one body area is delivered over three or five treatment visits. Treatment is given two to three times a week with at least one day between each appointment. Treatment is not delivered at the weekend. If you are having more than one area of your spine treated you will have more treatment appointments and may have to attend every week day for up to two weeks.

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. At each treatment session, the radiographers will position you by moving the treatment couch and machine to ensure the radiotherapy is delivered accurately to the cancer.
The machine will not touch you. During treatment it is important that you stay as still as possible and breathe normally.

Once you are in the correct position the radiographers will leave the room to begin treatment. They will be watching you all the time on a closed circuit TV monitor (CCTV) to ensure your safety during the session. The CCTV camera is not recording or saving any images.

There is also an intercom system so the radiographers can talk to you. Please let the radiographers know if you would like to use the intercom system.

Each treatment session will take up to one hour. As well as delivering your radiotherapy the radiographers will always take a number of ‘scans’ before and after your treatment. The purpose of these scans is to confirm that your treatment is being delivered accurately. Using these scans we may make small adjustments in the position of the couch and machine which you may notice.
When delivering the treatment itself the machine will rotate around you and make a high pitched buzzing noise. This takes about two minutes. This is the only way you will know the machine is switched on. You will not feel anything. If you have any concerns or queries throughout the treatment course, please tell the radiographers.

The radiographers will monitor your side-effects throughout your treatment course and arrange for you to see a doctor in the Princess Royal Suite if needed.

Some days the radiotherapy department may be very busy and your appointment time may be delayed. We will keep you informed on any delays.

Your appointments for radiotherapy may not be at the same time each day and may be subject to change. We will try to give you times that suit you, but this may not always be possible.

It is possible that during your course of treatment an appointment may be cancelled due to machine maintenance work, bank holidays or in rare cases, machine breakdowns.

As the date of your final treatment may be changed it is important that you speak to the radiotherapy team before booking a holiday immediately following your treatment.

Please telephone the radiotherapy reception desk on: 0113 206 8940 for further advice.
Side-effects of treatment

As your treatment progresses you may experience some side-effects. Not everyone will experience all of these effects. Please tell the radiographers how you are feeling, particularly if your symptoms worsen, so that you can get the care you need.

Early Reactions
(during or up to 12 weeks after your treatment)

The side effects which you experience during or after treatment will depend on which part of your body is being treated. Your doctor will discuss which side effects are most likely to affect you before you start your radiotherapy.

Skin reaction

10 to 12 days after starting your treatment, the skin where you are having your treatment may change. When you start your radiotherapy the radiographers will explain the procedure and how to look after your skin. They will also give you a leaflet about this. They will also discuss how to care for your skin after treatment and give you another leaflet at the end of your treatment.

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

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 usually improves between six months to a year after treatment. Some people find that fatigue can last longer, up to two years or more.
There are things you can do to help yourself:

• Gentle 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 be easier to face.
• 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 daily tasks if needed.
• Little and often is the rule of thumb.

There is a Macmillan information leaflet available ‘Coping with fatigue’. If you would like a copy, or support with your fatigue please ask a member of staff.

Back Pain

Some patients can experience pain in the part of the spine being treated after this type of radiotherapy. It may be necessary to take painkillers to ease this pain before it settles down. Some patients will be given a short course of steroids (usually a drug called dexamethasone) to take during and for a short number of days after a course of SABR to the spine. The purpose of these steroid tablets is to reduce the risk of developing acute back pain because of the radiotherapy.
Please read the information leaflet enclosed with any medications; this will explain any side-effects you may experience when taking them. If you are at all concerned about any side-effects you are experiencing please talk to your pharmacist, nurse specialist or GP.

**If you experience severe back pain despite taking pain killers,**

- **If already here:** please speak to your radiotherapy treatment team

- **From home:** 8.00 to 6.00 Monday to Friday please call 0113 206 7587

- **From home:** Out of hours weekdays and weekends and bank holidays. Please call 0113 243 3144 and ask to speak to the oncology nurse bleepholder

**Loss of appetite and nausea**

Your appetite may vary during your treatment. Try to eat well and drink about two litres of fluid every day during your treatment. There is a leaflet available ‘Eating well during your treatment’, please ask a member of staff if you would like a copy. If you are experiencing significant nausea, please let us know as anti-sickness tablets can be prescribed.

**Bowel symptoms**

Radiotherapy may irritate your bowel. It is important to tell us if you have loose motions or diarrhoea. You may develop the urge to open your bowels without passing anything.

**Shortness of breath**

Occasionally radiotherapy to the lung can produce inflammation in the lungs. This inflammation can cause symptoms of increased shortness of breath, wheezing, fever and cough.
This can happen 4-12 weeks after the treatment has finished. It can often be mistaken for a chest infection but it is not helped by antibiotics. Pneumonitis is rare when treating the spinal cord, but if you get these symptoms please contact your Clinical Oncologist and/or the radiotherapy department. If inflammation in the lungs is suspected, your Clinical Oncologist may start you on steroid tablets to reduce the inflammation.

**Discomfort swallowing**

If your oesophagus (gullet/food pipe) is close to the area of spine being treated, it may become inflamed during and shortly after your course of radiotherapy. If this happens, you may experience food ‘sticking’ in your gullet at mealtimes, heartburn or pain when swallowing. If you experience this side-effect you will be given information, advice and medicines to help manage the symptoms. You may find that a soft or liquid diet is easier to swallow. Cooling down hot drinks and soup may also be helpful. It may be 2-3 weeks after finishing treatment before this symptoms starts to improve.

**Later Reactions (after three months)**

**Back pain, vertebrae and rib fractures**

Spinal SABR can weaken the bones in your back, or vertebrae. If a vertebra is weakened by spinal SABR, it can fracture (break) or crush (collapse). This is called a vertebral compression fracture. Vertebral compression fractures can be very painful. It may be necessary to take painkillers to control the pain. Sometimes the pain caused by a vertebral compression fracture may subside after approximately 8 weeks. Other patients may need to take painkillers
permanently to control the pain. If the pain is very severe, a small number of patients may need an operation to help ease the pain.

If the tumour is close to the ribs there is a chance that the radiotherapy may weaken the ribs and cause them to break (fracture). Not all rib fractures are painful, but some patients need to take pain killers for a long period of time if their rib fracture hurts.

**Damage to the spinal cord or cauda equina**
Spinal SABR can damage the nerves in the spinal cord or the cauda equina (‘tail’ of the spinal cord). We take great care when planning and delivering your treatment to minimise this risk. The risk is small (affecting fewer than 10 people for every 1000 treated) but it would be very serious if it were to happen. Symptoms depend on which part of the spinal cord and which nerves are damaged. Symptoms can include limb weakness, difficulty walking, numbness, loss of bladder and bowel control and death.

**Damage to the oesophagus or bowel**
Spinal SABR can damage the oesophagus (gullet) or bowel. The risk is small but it could be serious if it were to happen. Possible symptoms of damage to the bowel include a permanent change in bowel habit, bleeding from the bowel or diarrhoea. Other rare but potentially serious or life threatening complications include a stricture (permanent narrowing) of the oesophagus or bowel, perforation (hole) in the oesophagus or bowel or severe bleeding from the oesophagus or bowel. An operation may be needed to treat any serious damage to the bowel or oesophagus.
**Damage to the trachea**
Spinal SABR can damage the trachea (windpipe) or the main airways (air tubes) into each lung. This can cause a cough or chest infections. It is unlikely that treatment will cause a hole to develop in the trachea but this would be a life threatening complication.

**Lung scarring**
Spinal SABR could cause permanent scarring to a small area of the lung. This could make you more short of breath or cause a cough. The risk of this happening is small.

**Re-irradiation**
If stereotactic radiotherapy is to be given to an area of your body which has received radiotherapy before, this is called ‘re-irradiation’. Re-irradiation increases the risk of developing long term or severe side effects following treatment. Your oncologist will talk through these risks with you before you start treatment. Sometimes these risks only become apparent whilst your stereotactic radiotherapy is being planned. If this happens your oncologist may change the number of radiotherapy treatment sessions, or may change the dose of radiotherapy. Your oncologist may decide that it is not safe to go ahead with treatment if the risks cannot be reduced to an acceptable level.
Useful organisations - Local

Leeds Cancer Support
Leeds Cancer Support at Leeds Cancer Centre 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 Dept. 8am - 6pm Tel: 0113 206 7603
Level 1 Outpatients Dept. 10am - 4pm Tel: 0113 206 8816

The Sir Robert Ogden Macmillan Centre
Offers a variety of support services including counselling, support groups and complementary therapies. 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

Useful organisations - National

Macmillan Cancer Support: Freephone 0808 808 2020
9am - 6pm Monday to Friday.
Website: www.macmillan.org.uk
A textphone service for deaf and hard of hearing people on 18001 0808 808 0000.