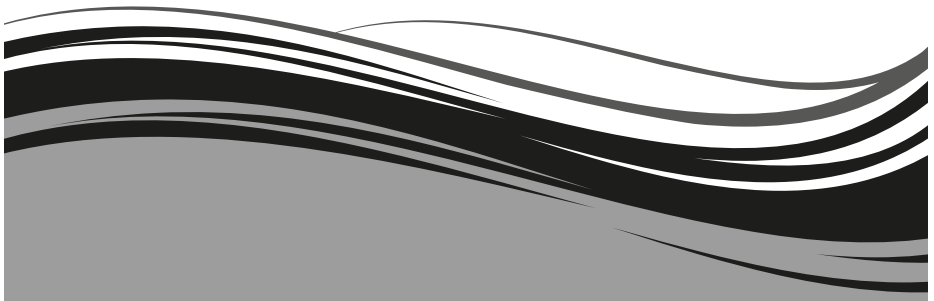


Information for patients receiving
Stereotactic Radiotherapy

The Beatson West of Scotland Cancer Centre
1053 Great Western Road
Glasgow G12 0YN



This leaflet is for people who will have stereotactic radiosurgery or radiotherapy. It describes:

- The radiotherapy planning and treatment.
- The effects that you may experience during and after treatment.
- How best to cope with these effects.
- Where to get help and support.

What is stereotactic radiotherapy?

Stereotactic radiotherapy is a non-invasive procedure used to treat small tumours affecting the brain. The treatment uses high energy X-rays which damage tumour cells in a way that may cause them to die or stop them from growing. It is used as an alternative to surgery.

The treatment is very accurate and focuses on small, precise areas of your brain where the tumour is. This increases the chances of controlling your tumour, whilst avoiding treatment to healthy tissue. This helps us to reduce the chance of possible side effects from the treatment.

The treatment is usually given as a single treatment (stereotactic radiosurgery) or rarely a short course of between 2 and 5 treatments (hypofractionated stereotactic radiotherapy).

The treatment can be used to treat more than one tumour if needed.

Our team approach to care

Before offering you this treatment your case will have been discussed by a number of specialists in the multi-professional team. These will always include your oncologist, consultant radiographer and sometimes others such as a neurosurgeon, a radiologist or other doctors from your referring hospital. Your scans and history will be used to help assess the position, size and shape of your tumour. This helps to decide whether stereotactic radiotherapy is right for you. There is a great deal of expertise and experience advising on the best possible treatment for you.

Your consultant oncologist and consultant radiographer will be in overall charge of your care. You will meet other members of the team during your planning and treatment. We all work together to give you the best possible care.

Preparation for treatment

Before you begin your treatment we must plan it carefully. You will need to have a close fitting shell (mask) made. The type of shell you will have is called an encompass shell. You will wear your shell for your planning and treatment.

This is important because:

- It allows your radiographers to give your treatment accurately.
- It helps to support your head and keep it from moving during treatment.

The shell is made in the **Mould Room**.

The Mould Room

The mould room appointment will last approximately 1 hour. It takes 45 minutes to make the shell. The remaining time is spent explaining what will happen to you and answering any questions you may have.

If you have a beard and/or moustache, we may advise you to shave it off before coming to the mould room. It is important that your skin is smooth before we start to make your shell.

How is the shell made?

The mould room technicians will make your shell. Before beginning they will explain everything in detail. They will help you to lie flat on their couch. There is a firm headrest to support your head. The technician will position hand grips at either side of you. This helps to keep your shoulders in the same position at every visit. When you are comfortable, they will start to make your shell.



Picture 1. Encompass shell
Image used with permission
from Qfix

The technicians will use a warm, softened sheet of plastic to take an impression of the back of your head. As it starts to cool, it hardens and sets. A second piece of warm material is then placed over your face and clipped into place. There is an opening to ensure your nose and eyes remain uncovered. The technicians will gently smooth the material around your head and face.

The plastic will begin to harden as it cools down. It also shrinks a little so you will feel it getting a little bit tighter. The shell should feel firm, but not too uncomfortable.

Mouth bite

Your doctor may want you to have a mouth bite with your shell. This is a very small piece of plastic attached to the mask that you bite between your front teeth. Your consultant radiographer will discuss this with you.

What happens at my planning appointment?

Before your course of radiotherapy can begin, we need to produce an individual treatment plan for you.

The planning process will involve appointments for brain scans. This will include a CT scan and an MRI scan.

CT simulator

You will have a CT scan done at the CT simulator. This may be on the same day as your shell is made. This is very similar to a normal CT scanner and is specially designed for planning radiotherapy treatment. It does not necessarily give the same information as the scan used to diagnose your condition.



Picture 2.
CT Simulator

Your radiographers will make sure you are comfortable on the scanning couch. They will place your shell on. You may be aware of them putting some markers on your shell. They will then move the couch into the scanner and leave the room to begin your scan. Scanning usually only takes a couple of minutes. Your radiographers will watch you closely.

MRI scan

You will then visit the MRI scanner at the Beatson. This scanner is located near the mould room on level 0. The MRI scan lasts about 15 minutes.

The MRI staff will meet with you and ask you some questions. This allows them to check that it is safe for you to enter the MRI scanning room.

You will wear your shell for this appointment. You won't feel anything during the scan. Some patients find the scanner noisy. The radiographers working on the scanner may play some music for you.



Picture 3 - MRI Scanner

Contrast injection

For your scans, most people will need an injection of contrast (dye) to help show up the tumour more clearly.

Your doctor or radiographer will put a small needle (cannula) into a vein, usually on the back of your hand or arm. They will remove the needle, leaving a small tube of plastic in your vein.

It will be taped in place and will stay in during your scan. Your radiographer will then inject the dye through this plastic. It may feel a little cold but you should not feel any discomfort.

Will I meet anyone from the team at my planning appointments?

During your planning appointment, you will usually meet with your consultant radiographer. They will discuss your treatment with you once more and answer any questions that you may still have. If you have not already done so, they will also ask you to sign a treatment consent form.

How is my treatment planned?

Our physics team will use the information from your CT and MRI scans to design your individual treatment plan. This makes sure that all the area needing treatment is included and that normal brain tissue is avoided as much as possible.

When will I start my treatment?

Treatment normally starts one to two weeks after your planning visit. Sometimes we need to make small changes to your plan. If this is necessary we may have to delay the start of treatment a little, but we will explain this to you.

How should I prepare for the treatment?

When the treatment is given as a single session, there is a small risk of swelling of the area that has been treated. We therefore normally recommend that you take medication called Dexamethasone on the day of your treatment and for a few days afterwards. Many people are already on this drug once diagnosed with tumours in the brain. This is a strong steroid that prevents swelling following your radiotherapy. If you do not already have it, we can give you the medication when you come in for your treatment appointment.

We would like a family member or friend to accompany you for your treatment. Although you are not likely to feel very different after you have had your treatment, some people can experience some light headedness. We should of course

remind you that most patients with brain tumours are not allowed to drive. If you are in any doubt about your position with respect to driving please ask your consultant radiographer or your doctor.

What happens during my treatment?

- You will have treatment on a linear accelerator which is a type of X-ray machine. The staff who operate these machines are called therapy radiographers.
- Your radiographers will ensure you are in exactly the same position as you were when you had your planning scans done. They will make sure you are comfortable and will then put your shell on.
- Your radiographers will dim the lights in the room for a few minutes to position you correctly. You will hear them talking and checking various numbers. You may also be aware of the couch moving slightly. Your radiographers will move the machine round about you, but it won't touch you.
- Your radiographers will leave the room while the treatment machine is on. They are watching you at all times on CCTV.
- Before your treatment begins, your radiographers will do a CT scan of your head to check your treatment position. This can take a few minutes. Once they are happy with your scan, you may feel the couch move slightly. The couch top can tilt and you may be aware of this but please don't panic, it is only a tiny amount and you are perfectly secure on the couch.
- Your radiographers will then start your treatment. You may be aware of the machine moving round about you. It will not touch you. The machine makes a buzzing noise as it delivers the treatment. You won't feel anything.
- The whole session should take around 20 minutes. Most of this time is taken making sure you are in exactly the right position, to within one millimetre. This is sometimes possible in just a few minutes, but can take a long time; either way, it is the most important part of the whole

process, and your radiographers will take as much time as necessary. Once your position is confirmed, the actual treatment only takes a couple of minutes. It is painless and you will feel no differently afterwards. Please check with your radiographers if you have any questions or problems.



Picture 4 - Linear Accelerator

Are there any side effects from treatment?

We treat each person as an individual and the effects of treatment may vary from one person to another. Your consultant radiographer will explain your treatment in detail. If you need more information or have any questions or problems, please let us know as soon as possible.

How will I feel after the treatment?

- You may feel tired for a day or two, but often people feel nothing.
- Occasionally your skin may feel hot and itchy, but this should settle down after a week or two.
- There is a slight increased risk of a seizure (or fit) after your treatment. This is usually only a problem for people who have had seizures in the past. If this happens please contact one of the team.
- Although loss of hair is a problem common to nearly all radiotherapy treatments to the head, the extent of hair loss with radiosurgery is usually minimal. We advise you to discuss this with your doctor or consultant radiographer.

- We would advise you to take time off work during and maybe after the treatment. Once again, how treatment affects you should be discussed with your doctor or consultant radiographer.

Will I have a follow up appointment?

You will be seen in the outpatient's clinic at The Beatson West of Scotland Cancer Centre a week after completion of treatment. Further follow-up will usually be with your normal oncologist at your local centre.

Our team

Planning of stereotactic radiotherapy is a complex process. It involves several stages and a whole team of people. The people in overall charge of your care are:

Doctors Dr. Allan James
 Dr Stefan Nowicki

Consultant Radiographer Aoife Williamson

Where can I get help?

Information and support

All our staff are here to make sure your treatment goes as smoothly as possible and will try to help with any questions or problems you may have. Further specialist help and information is available from:

Information and Support Radiographer

☎ 0141 301 7427

The Centre has a **Radiotherapy Advice Line** available for patients who have completed treatment. It is an answer phone service. Please leave a message with your name and contact details and we will call you back as soon as possible.

☎ 0141 301 7432

The Cancer Centre also has a **Cancer Treatment Helpline** for urgent calls. This is for patients on or within 6 weeks of treatment who have urgent or severe symptoms such as:

- Shivering or flu-like symptoms.
- Temperature greater than 37.5°C.
- Gum/nose bleeds or unusual bruising.
- Worsening or sudden breathlessness.
- Leg weakness/difficulty walking.
- Severe nausea/vomiting/diarrhoea/constipation.
- Sudden increased or uncontrolled pain.
- Other concerning symptoms associated with your cancer treatment.

The line is available 24 hours for emergencies, although it would be helpful if you called early in the day if this is at all possible.

For Urgent Calls:

Beatson 8am-8pm ☎ 0141 301 7990

National 8pm-8am ☎ 0800 917 7711

Clinical psychology

This leaflet deals with the physical aspects of your treatment, but your emotional wellbeing is just as important to us. Being diagnosed with cancer can be a deeply distressing time for you and those closest to you. Within the department we have a clinical psychology service that can help with worries and difficulties you might be having. If you think this may be helpful to you, please ask staff to put you in touch.

There are also voluntary organisations providing information and support. These include:

- **Macmillan Cancer Support:**
☎ 0808 808 0000 🌐 www.macmillan.org.uk
Providing practical, medical, emotional and financial advice for those affected by cancer.
- **Maggie's Gartnavel:**
☎ 0141 357 2269
- **Maggie's Lanarkshire, Monklands Hospital:**
☎ 01236 771199
- **Maggie's Forth Valley:**
☎ 01324 868069
Maggie's Centre provides a comprehensive cancer support programme for people and their families affected by cancer.
🌐 www.maggies.org
- **Cancer Support Scotland**
The Calman Centre, Gartnavel Complex.
Freephone: ☎ 0800 652 4531
Provides emotional and practical support on a one-to-one basis and through community based groups. Complementary therapies available.
🌐 www.cancersupportscotland.org
- **Macmillan Benefits Team (within the Beatson)**
☎ 0141 301 7374
Provides free and confidential advice for people affected by cancer and their carers.
- **Epilepsy Scotland:**
☎ 0808 800 2200
Provides information and advice:
🌐 www.epilepsyscotland.org.uk
- **Beatson Cancer Centre**
If you want to find out more about our Centre please visit:
🌐 www.beatson.scot.nhs.uk
- **NHS 24** ☎ 111

You may find some useful information on the websites listed above. However, it is important to note that The Beatson West of Scotland Cancer Centre cannot accept responsibility for the quality and content of any information provided by other organisations.

Care Opinion

We welcome your comments and feedback about our service. If you would like to give us feedback please go to:

🌐 www.careopinion.org.uk or
telephone 📞 0900 122 3135 or
scan the QR code:

