

Information about ...

Radiotherapy for a Primary Brain Tumour

Radiotherapy for a primary brain tumour

This leaflet is for patients receiving radiotherapy for a primary brain tumour. It describes:

- What is Radiotherapy?
- Your radiotherapy planning and treatment.
- The effects that you may experience during and after treatment, and how best to cope with them.
- Who to contact if you have any questions or concerns.

We treat each patient as an individual and the effects of treatment may vary from one person to another. Your doctor, radiographer, and clinical nurse specialist will explain specific aspects of your treatment.

What is radiotherapy?

Radiotherapy is the use of carefully measured doses of radiation to treat cancer. It damages the cells and stops them dividing and growing. Most patients having radiotherapy are treated using a high energy beam of X-rays delivered to a precise area. These X-rays are used to treat the tumour and a small surrounding area.

Therapy radiographers operate the radiotherapy planning and treatment machines. They will be able to answer any questions or concerns that you may have. We have both male and female staff.

You will receive a list of appointments which will include planning and treatment dates and times.

If you are in doubt about anything or have any questions or problems, please let us know as soon as possible.

Preparation for treatment

Before you begin your treatment we must carefully plan it. You will need to have a beam directional shell (BDS) made. You will wear it for your planning appointment and your treatment each day. The shell is important because:

- It allows your radiographers to give your treatment accurately.
- It helps to support your head and keeps it still during treatment.
- The marks necessary to position you each day for treatment will be put on the shell and not your skin.

The shell is made for you in the mould room by our specially trained technicians.

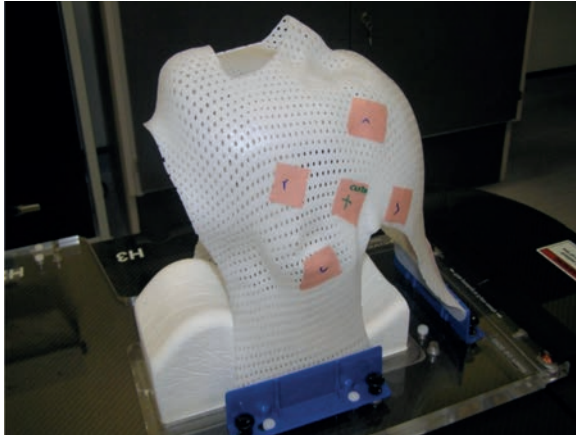
Mould room

The type of shell used for radiotherapy treatment to the head is called an **orfit** shell. The technicians will explain everything in detail. They will help you to lie flat on their couch. When you are comfortable, they will start to make your shell.

The technicians will use a warm, softened sheet of plastic. They will gently mould this around your head and face. There is an opening to ensure your nose and mouth remain uncovered. This allows you to breathe freely.

The plastic will begin to harden as it cools down. As it cools, it shrinks a little so you will feel it getting a little bit tighter. The shell should feel firm, but not too uncomfortable. Having the shell made is painless.

This appointment will last around 30 minutes.



Picture 1: Shell

Treatment planning

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 the 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 both scans you may need to have an injection of contrast (dye) that will help us to see the area we want to treat 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 scans. Your radiographer will then inject the dye through this plastic. It may feel a little cold but you should not feel any discomfort.

Some people can have an allergic reaction to the dye. This is rare but we will ask some questions before beginning to ensure it is unlikely to happen to you. Your radiographers will keep a close check on you during the injection and scan, so if you feel anything unusual please tell us.

Treatment

The number of treatments you have can vary. As a guide it is usually between 5 and 30 treatments given over 1 to 6 weeks. Your radiotherapy is given in small daily doses, Monday to Friday but not at weekends.

You will have your treatment on a Linear Accelerator, which is a special type of X-ray machine.



Picture 4: Linear Accelerator

Your radiographers will explain everything to you before treatment starts and check that you know what to expect.

- Your radiographers will ask you to lie on the couch, just as you were in the CT simulator. They will put your shell on and dim the lights while they position you.
- Your radiographers will leave the room while the machine is switched on. They will be watching you the whole time on CCTV.
- The machine will move round about you. It will not touch you.
- Your radiographers may take some X-ray pictures to check your position before starting your treatment. You may feel the bed move slightly while they do this.
- Your radiographers may have to come back into the room to move the machine or adjust your position.
- Radiotherapy treatment is painless.
- The whole process only takes between 10 and 15 minutes.

If you have any questions or are unsure about anything to do with your treatment, please speak to your radiographers.

You will also be seen on a regular basis, usually once a week, by a member of the team (i.e. consultant radiographer, nurse specialist or doctor). They will check how you are managing treatment and answer any questions you may have.

Caring for your skin and hair during treatment

While you are having your radiotherapy and for a few weeks after it is finished you should:

- Wash your hair with lukewarm water using your normal shampoo. If your skin becomes irritated we may advise you to stop using shampoo.
- Pat your hair dry gently with a soft towel and allow it to dry naturally.
- Do not use a hairdryer as this will irritate your scalp.
- Avoid using curling tongs or straighteners.
- Do not use any creams or lotions on the treatment area unless we have advised you or given you them.
- If part of your face or forehead is in the treatment area, avoid using cosmetic products on this area.
- Your skin and scalp will be much more sensitive during and after radiotherapy. It is therefore important to protect the treatment area from the sun when the weather is hot. Wear a hat and sit in the shade. You will need to be especially careful for the first year after your treatment has finished. We advise you use sunscreen with both UVA/UVB protection and minimum SPF 50.

General advice during treatment

There is no reason to change your lifestyle during treatment but it may help to:

- Try to get enough rest and sleep, especially when the treatment begins to make you feel tired. It is also important that you try to continue with some of your normal daily activities. A sensible balance between rest and activity may be most beneficial. Research has shown that gentle exercise is also beneficial for people who have had a cancer diagnosis both in the short and longer term. There are programmes available that can help with this. Please let us know if you are interested in finding out more.
- Eat a normal healthy diet.
- Keep hydrated. Aim to drink at least 2 litres a day.

Effects of treatment

Each person is an individual and the effects of treatment can vary. This is a list of all the potential side effects. Please remember, it does not mean that you will experience all of them.

- **Tiredness:** You may get tired. This tends to start a couple of weeks into treatment. It can last for several weeks after treatment has ended.
- **Skin:** Skin in the treated area will be more sensitive and may become pink or red as your treatment goes on. Again this tends to be a couple of weeks into treatment and settles down after treatment is finished. If this becomes a problem we can give you cream to help.
- **Hair Loss:** Hair within the treatment area will gradually fall out. This tends to start 2 to 3 weeks into treatment. The hair may not grow back again in this area.

- **Nausea:** Some patients comment on the unusual effects of nausea (feeling sick) and taste changes. If you experience this please let us know. Your doctor will prescribe medication to help with nausea.
- **Headache:** You may experience headaches during your treatment. These can be controlled with steroids. Please let a member of the team know should this be a problem.
- **Steroids:** Many patients will take steroid medication during their radiotherapy treatment and for some weeks afterwards. These can cause a number of side-effects which are explained in detail in our patient information leaflet on Steroid Therapy. Do not stop taking your steroids suddenly. Talk to your doctor, nurse or consultant radiographer about reducing the dose.

Late effects of treatment

We believe that the benefits of your radiotherapy treatment outweigh any longer term risks involved. However, there are some potential long-term effects you should be aware of. It is important to point out that effects can vary from person to person. Your doctor will explain specific individual issues with you personally. The following effects are a general guide:

- Hair loss can be permanent after radiotherapy. It depends on the dose of radiotherapy you have had. Your doctor will talk to you in more detail about this.
- To give the necessary treatment to your brain tumour some parts of normal brain tissue will receive a small amount of radiation. This could cause some damage. The chance of this occurring and the possible consequences will depend on many factors such as where the tumour is, how big it is and how much radiation is necessary. Your doctor will discuss this with you personally. By dividing the total radiotherapy dose into many small doses (treatments) given over a number of weeks, the possibility of damage is greatly reduced.

- Some patients notice some deterioration in their short-term memory after a course of radiotherapy. Your consultant will discuss this in more detail with you.
- A very rare but potentially important effect is that radiation can cause tumours. Although this is a serious possible consequence of your radiotherapy, it is important to bear in mind that the chance of this happening is **very small**. If it does occur it is likely to be many years after treatment.

Remember we believe that the benefits of radiotherapy treatment for your condition far outweigh the risks described here. Your doctor will discuss this in more detail with you.

After treatment ends

Any symptoms which have developed during treatment will wear off a few weeks after it ends, however the tiredness will take a little longer. You may begin to wash normally once your skin no longer looks red or feels itchy. Your radiotherapy doctor will arrange to see you 4-6 weeks after treatment ends. If your hair does not regrow, you will always have to protect your scalp from strong sunlight.

If you should feel unwell after your treatment is finished, please contact your GP or NHS 24 on ☎ 111. Your GP and NHS 24 are able to contact the Beatson any time, night or day, should they require information or advice regarding your care.

Where can I get help?

You will probably have lots of questions and concerns about your diagnosis and treatment. You may also feel that you need some extra support to help you through this worrying and difficult time. The professionals and organisations listed can help you with any issues you might have and provide you with the information and support that you want.

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 you may have. Further specialist help and information is available from:

- **Neuro-Oncology Nurse Specialist:** ☎ 0141 301 7602
- **Information and Support Radiographer:**
☎ 0141 301 7427

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 centre 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.

The Macmillan Information & Support Centre is on Level 1 at the main entrance of the Beatson. They offer emotional support, information and signposting to services within and near to the Beatson and in your own local area. Open Monday to Friday 8:15am to 4:15pm. ☎ 0141 301 7390

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

Radiotherapy Advice Line ☎ 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.

Please call the following:

Beatson 8am-8pm ☎ 0141 301 7990

National 8pm-8am ☎ 0800 917 7711

Other Support

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

Macmillan Cancer Support:	☎ 0808 808 0000
Providing practical, medical, emotional and financial advice for those affected by cancer.	
🌐 www.macmillan.org.uk	
Maggie’s Gartnavel:	☎ 0141 357 2269
Maggie’s Lanarkshire, Monklands Hospital:	☎ 01236 771 199
Maggie’s Forth Valley:	☎ 01324 868 069
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	
Brains Trust	☎ 01983 292 405
Provides information, support and advice at the point of diagnosis and beyond.	
🌐 www.brainstrust.org.uk	
The Brain Tumour Charity	☎ 0808 800 0004
Provide a variety of information and support and fund research to address the needs of brain tumour patients.	
🌐 www.thebraintumourcharity.org	
Epilepsy Scotland	☎ 0808 800 2200
Provides information, help and emotional support to those affected by epilepsy.	
🌐 www.epilepsyscotland.org.uk	
Headway, Brain Injury Association	☎ 0808 800 2244
Provides help and support for those affected by brain injury.	
🌐 www.headway.org.uk	

Headway Glasgow	☎ 0141 332 8878
Headway Glasgow, affiliated to the wider Headway network, works with people who have an acquired brain injury, their families and carers in the Glasgow area.	
🌐 www.headwayglasgow.co.uk	

Headway Ayrshire	☎ 01292 618 090
Headway Ayrshire, affiliated to the wider Headway network, works with people who have an acquired brain injury, their families and carers in the Ayrshire area.	
🌐 www.headway-ayrshire.org.uk	

DVLA Medical Advisor	☎ 0300 790 6806
Drivers medical enquiries, DVLA, Swansea, SA99 1TU	

Macmillan Benefits Team (within the Beatson)	☎ 0141 301 7374
Provides free and confidential advice for people affected by cancer and their carers.	

Beatson Cancer Centre
If you want to find out more about our Centre please visit
🌐 www.beatson.scot.nhs.uk

Scottish Adult Neuro-Oncology Network (SANON)
Aims to link together health professionals, patients and their families/carers, voluntary sector representatives, and external companies to design and deliver the best service to patients and carers in Scotland
🌐 www.sanon.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.

Leaflet reviewed by H. Reid / A. Williamson October 2023

QA Approved by H. Reid October 2023

Review date October 2025

mi • 301964 v3.2