

Radiotherapy for pituitary tumours

Information for patients who have been recommended radiotherapy treatment



We have given you this booklet because you have been recommended radiotherapy for a pituitary tumour. This booklet will explain what a pituitary tumour is and the risks and benefits of radiotherapy.

We hope it will answer some of the questions you may have. If you have any other questions, please speak to a member of the team using the details at the end of this booklet.

What is a pituitary tumour?

A pituitary tumour is an abnormal growth in the pituitary gland (a pea-sized gland on the surface of the brain).

The pituitary gland makes and releases hormones into the bloodstream which affect many functions in your body. Most pituitary tumours are benign (non-cancerous), meaning they don't spread to other parts of your body. However, a pituitary tumour can cause the pituitary gland to make too few or too many hormones, causing problems in the body. Therefore, treatment may be required. The type of treatment will depend on your symptoms and the type of pituitary tumour you have. Some people may require surgery, but in your case your doctors are recommending radiotherapy.

What is radiotherapy?

Radiotherapy is treatment that delivers carefully measured doses of high-energy radiation to a specific area. It is commonly used to treat cancer. However, it is also used to treat benign pituitary tumours.

Why do I need radiotherapy?

There are different reasons why you may need radiotherapy. Radiotherapy is recommended to patients who have:

- a residual pituitary tumour that cannot be safely removed surgically
- a tumour that has grown back after surgery
- a tumour that is resistant to other treatment

Sometimes radiotherapy is the first treatment option because of the nature of the tumour.

How is radiotherapy given?

Radiotherapy is given as a course of short treatments called fractions. These fractions can be given at different intervals depending on:

- the type of tumour you have
- your general health and fitness

There are different ways to deliver radiotherapy to pituitary tumours. Your neuro-oncologist (doctor specialising in cancer in the brain) will discuss which is the best option for you.

Fractionated external beam radiotherapy (EBRT)

This is where the small doses of radiation are given daily over around five weeks (excluding weekends). The treatments last between 10 and 20 minutes every day. However, some of this time is taken positioning you correctly on the treatment couch.

Stereotactic radiosurgery (SRS) or stereotactic radiotherapy (SRT)

Stereotactic radiotherapy (SRT) gives radiotherapy from many different angles around the body. The beams meet at the tumour. This means the tumour receives a high dose of radiation and the tissues around it receive a much lower dose. This lowers the risk of side effects. The treatment is usually delivered in one day (SRS) or over three to five days (SRT).

Before your treatment

Before you start your treatment, your doctor will set up a plan which will include:

- information about the type of treatment you are having
- the radiation dose
- the number of fractions you need and how often you need them

You will need to come to hospital for mask fitting, a planning CT scan, and an MRI before your treatment.

Mask fitting

You will need to wear a mask during the radiotherapy treatment. The mask holds your head still during the treatment, which means that the radiation can be given precisely. Before your treatment starts you will be invited to a mask fitting appointment.



A mask

The mask is made from a plastic that is warmed before it is applied to your face. The plastic is soft when it is placed on your face, then hardens and sets within 10 to 20 minutes.

The mask should not feel uncomfortable and you should be able to breathe easily though it. If you have any questions or concerns about the mask, please mention them to us at your fitting appointment.

We will keep your mask at the hospital during the treatment period. You can take your mask home once all the treatment is completed, if you would like to.

Planning CT scan

After the mask is made, you will have a planning CT scan. This is usually done on the same day as the mask fitting. You will need to wear the mask during this CT scan.

Some CT planning scans involve having an injection of contrast agent (dye) into your arm or hand via a cannula (a thin, flexible tube that is used to give medication, fluids or dyes directly). This makes certain tissues and blood vessels show up more clearly and in greater detail. If this is the case for you, we will discuss this with you on the day of your first appointment.



A CT scanner

On the days of your treatment

When you arrive at the radiotherapy department, the team will explain the procedure. They will also confirm the number of treatments you will have.

They will ask you to lie on the treatment couch with your mask on.

The radiographers will leave the room, but they will be able to see you on CCTV and speak to you via the intercom system.

Before the machine is switched on, you may feel the couch move into the correct position. Once the couch is in the correct position, the treatment will begin.

The machine will make some noise during the treatment, but you will not feel anything.

The whole process will take around 10 to 20 minutes.

At the end of your session, you will be given details of your further appointments.

During the course of your treatment, the doctor will visit you in the radiotherapy clinic before or after your treatment session. This may be once a week or once every two weeks. The doctor will check for side effects and answer any questions you may have.



A radiotherapy machine (LINAC)

Side effects of radiotherapy

Side effects from radiotherapy can vary between patients. However, side effects are usually mild.

Early side effects (days to weeks after start of treatment)

Tiredness

This can happen towards the end of the course of radiotherapy. Tiredness can last for several weeks after the treatment. You might find that you sleep longer at night or even need a nap in the afternoon.

Nausea (feeling sick) and changed sense of taste

You may feel sick and your sense of taste may change. This usually happens a few hours after the treatment. It may be helpful to eat small but frequent meals and avoid foods that are high in fat.

If you are finding these side effects difficult to manage, or your nausea does not get better after one day, please tell your doctor. They may prescribe you anti-sickness medication.

Hair loss

Hair loss will only affect the hair within the treatment area. In most cases, hair will regrow in the months after treatment.

Skin changes

As your treatment progresses, your skin may become:

- more sensitive
- slightly pink
- red
- itchy

These symptoms usually settle when the treatment has finished.

You should use a gentle shampoo and avoid applying any creams that have

not been recommended by a member of the team caring for you at the hospital. You should also avoid exposing the treatment area to direct sunlight.

Headaches and visual changes

Some people experience headaches or visual changes after radiotherapy for a pituitary tumour. This is because of swelling around the treatment area. If this happens, please let your doctor know. They may give you a short course of medication to help.

Late side effects (months to years after completion of treatment)

Pituitary gland damage

The pituitary gland controls the other glands in your body by releasing hormones. There is a significant chance that radiotherapy will cause your pituitary gland to stop working at some point in the future if this has not already happened before the treatment. This will disrupt the release of some or all pituitary hormones.

Symptoms of pituitary gland damage vary depending on which part of the pituitary gland has been affected. Symptoms include:

- fatigue
- dizziness
- weight loss
- loss of appetite
- low mood
- infertility
- loss of libido (sex drive)

This may happen many years after the radiotherapy treatment has finished. Therefore, your endocrinologist (doctor specialising in hormones) will monitor your hormone levels regularly (at least annually) as an outpatient. We will offer you replacement therapy if we think you have pituitary gland failure. This is likely to be in the form of oral medication that does not require you to come into hospital.

Visual deterioration

The eye nerves (optic nerves) are very close to the pituitary gland. As some parts of the brain and optic nerves will be in the treatment fields, radiotherapy can cause visual disturbances or damage to normal brain tissue. This is very rare. By dividing the total dose of treatment into small daily doses given over number of weeks, the possibility of nerve damage is greatly reduced.

Secondary tumour development

Any radiotherapy carries a very low risk of causing another tumour, although this is very rare.

Other potential late effects

Other potential late effects of treatment include:

- cataracts (cloudy patches in your eye)
- a small risk of stroke
- permanent short-term memory problems

Your doctor will discuss the potential side effects with you and answer any questions you may have.

Driving

DVLA recommends that you do not drive during your radiotherapy treatment. If you need transport to attend your daily treatments, please let your doctor know during your first consultation. They will arrange for hospital transport for you.

You should be able to drive again four weeks after your last radiotherapy treatment, providing your visual fields are normal.

Follow-up

You will have a follow-up appointment with your doctor four to six weeks after the treatment. During this time, you can contact the pituitary specialist nurse for advice.

Further information

If you have any questions or concerns about anything in this booklet, please contact your clinical nurse specialist, secretary or reception using the contact details below.

Contacts us

Radiotherapy reception

Telephone: **023 8120 8568**

Consultant clinical oncologist

Secretary telephone: **023 8120 5057** (Monday to Friday, 8am to 4pm)

Pituitary nurse specialist

Telephone: **07824 600 449** (Mondays and Thursdays, 8am to 4pm)

Email: alicja.knysak@uhs.nhs.uk

Acute oncology service

Telephone: **023 8120 1345**

This number is answered 24 hours a day, seven days a week, but is only for treatment-related symptoms.

Useful links

The Pituitary Foundation: www.pituitary.org.uk

University Hospital Southampton NHS Foundation Trust
Southampton General Hospital
Tremona Road
Southampton
SO16 6YD

Main switchboard telephone: **023 8077 7222**

For a translation of this document, or a version in another format such as easy read, large print, Braille or audio, please telephone **0800 484 0135** or email **patientsupporthub@uhs.nhs.uk**

For help preparing for your visit, arranging an interpreter or accessing the hospital, please visit **www.uhs.nhs.uk/additionalsupport**

www.uhs.nhs.uk

© 2022 University Hospital Southampton NHS Foundation Trust. All rights reserved. Not to be reproduced in whole or in part without the permission of the copyright holder.

Version 1. Published November 2022. Due for review November 2025. 3290.