Brain Cancer: Radiation therapy treatment

Information for patients, families and friends
About this booklet

This booklet is designed to give you information about radiation therapy treatment for brain cancer and what to expect.

If you have any questions please speak to your Radiation Oncologist or the other helpful staff at Alfred Health Radiation Oncology during your next visit.

The Cancer Council of Victoria produces an easy to read brain cancer information booklet. Copies of the booklet can be found at Alfred Health Radiation Oncology or go to their website www.cancervic.org.au.

What is a brain tumour?

Brain tumours start in the brain and range from low grade tumours, which may sometimes be watched carefully without specific treatment, to high grade tumours which may require many forms of treatment. Anaplastic Astrocytoma and Glioblastoma Multiforme (GBM) are high grade tumours.

Treatment depends on the type and impact of the tumour, other medical conditions and age. Treatment may involve surgery, radiation therapy and chemotherapy and is based on your individual needs.

Brain tumours do not usually spread outside the nervous system. Tumours found in the brain that start in other parts of the body are called metastases and require different treatment.
Planning (Simulation) Appointment

During your planning appointment a personalised plastic mask will be made. This mask is made to help keep your head still during the radiation therapy treatment, making the treatment more accurate.

To make the mask we place the mask, made from a plastic mesh, into a warm water bath. When the plastic is heated it becomes soft and we are able to mould it to your shape. As it cools down it sets in the position and holds its shape. You can easily breathe and see through the mask.

A CT scan will be taken of the brain while you are wearing the mask. Reference lines will be drawn on the mask to help position you for treatment.

A small amount of contrast may be injected during the scan. You must notify staff of any allergies to medications, particularly allergies to contrast, iodine or seafood, prior to your scan.
Side effects

Below is a list of the most common side effects associated with radiation therapy to the brain. Side effects may not be limited to the following, so if you have any concerns please speak to your Radiation Oncologist.

Side effects can be divided into two groups:
- Acute – Those which happen during treatment.
- Late – Those which happen after treatment is completed.

Acute side effects

Tiredness
You may experience fatigue and increased sleepiness during radiation therapy treatment. This is usually mild and begins 2-3 weeks after treatment starts and continues 4-6 weeks after treatment is finished. If you are having chemotherapy it is likely you will experience more tiredness, which will last longer after your treatment is finished.

Nausea
Nausea is uncommon, but some people can experience nausea if radiation therapy is combined with chemotherapy. If you are experiencing nausea please discuss this with your radiation oncologist or nurse. Medications are available to help.

Redness of the skin and hair loss
You may notice some redness of the skin in the area being treated 2-3 weeks after the treatment has started. Towards the end of your treatment the skin may become dry and scaly.

Approximately 3 weeks into your treatment your hair may fall out in the treatment area. Nurses will provide you with cream to care for your skin.
Late side effects

Brain

Radiation therapy may affect some aspects of brain functioning in the longer term. Not everyone gets these effects and they are not always predictable. Every effort is made to reduce the likelihood of side effects during the planning stage. It is important to realise that these problems are far more likely to occur if radiation is not given and the tumour continues to grow unimpeded.

Many patients, but not all, find that short term memory is not as good following diagnosis and treatment. Similarly, doing several things at once can become more difficult. Age, other illnesses, other treatments, the amount of brain treated and the dose of radiation may all influence the risk of a change in brain function.

Side effects will be explained to you in detail before you are asked to sign a consent form giving your permission for treatment.

Caring for your skin

Taking care of your skin on your head (in the treatment area) is important because it will be more sensitive due to the radiation.

Please follow these skin care guidelines:

- Protect your head when exposed to sun, wind or cold by wearing a hat or scarf. This precaution is advised while on treatment and for some time until your skin returns to normal.
- Use sunscreen – The Cancer Council of Victoria has excellent advice on sunscreen products and hats.
- Use baby shampoo to wash your hair and be gentle when washing.
- Do not use hot water when washing treatment areas.
- Do not use any other medications, creams or powders on your head unless discussed with your doctor or nurse.
Can I drive?

You should discuss your fitness to drive with your doctor. The Australian Transport Council states that you cannot legally drive for six months after brain surgery, seizures or other neurological conditions, so you will need to have a friend or relative bring you in for treatment each day if you have had an operation.

A formal assessment is required to resume driving after this period. Any seizures will mean a return to driving may not be possible or is further delayed.

Chemotherapy for glioblastoma multiforme (GBM)

The drug Temozolomide (TMZ) is used during and after radiation therapy for glioblastoma multiforme (GBM).

It is an oral tablet taken every day (including weekends) while you are having radiation therapy. Temozolomide should not be taken with food. So do not eat for 2 hours prior to taking it and 1 hour after taking it.

The potential side effects of Temozolomide are usually mild and include: Nausea, vomiting and tiredness

Temozolomide may also affect blood counts, so they are checked weekly with a blood test.

If you feel hot or feverish, take your temperature. If you have a temperature of 38°C or more, you should contact your treating doctor or attend the nearest emergency department without delay.

You should tell your doctor or dentist that chemotherapy is being given before any procedure.
Your medications

The order of medications each day for GBM:
1. Zofran (Ondansetron) 4 mg tablet
2. 30 mins later take Temozolomide tablet (s)
3. 1 hour later radiation therapy treatment

This is not an exact science, if you have any questions or problems with medications please speak to your radiation oncologist or nurse.

Zofran (Ondansetron)
Zofran is a strong anti-nausea tablet. Take 1 tablet 30 minutes prior to Temozolomide and use for the first 3 days of treatment only or as instructed by your nurse.

You may have a repeat on your script but most people will not need to fill this. If you feel you need to start taking them again please discuss this with your doctor or nurse. Constipation is a side effect of Zofran.

Bactrim
This is an antibiotic (sulpha-based) that helps prevent you getting a rare type of pneumonia that the Temozolomide makes you more prone to get. You take 1 tablet on Mondays, Wednesdays and Fridays for the whole course of radiation therapy. There is a repeat on your original script.

Anti-seizure medications
Not all patients will be on these. If you are then continue taking them. We will monitor their levels on your blood tests.

Dexamethasone
This is a strong steroid that comes in 4 mg tablets as well as 0.5 mg tablets. It helps to reduce swelling in the brain. Some patients will already be on it and we will try and wean you off it during treatment. It can be dangerous to stop medication suddenly. Other patients may have to start it during treatment.
Further information:

The Alfred
alfredhealth.org.au

Alfred Health Radiation Oncology
alfredhealth.ro

Latrobe Regional Hospital
lrh.com.au

Cancer Council Victoria
cancervic.org.au

If you would like to provide feedback or request a copy of this information in a different format, contact us at patient.information@alfred.org.au