Other formats:

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team: patient.information@addenbrookes.nhs.uk.

Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.

We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0169.

Department of Neurosciences

Patient Information

Carmustine chemotherapy wafers (Gliadel®)
What is Carmustine (Gliadel®)?

Carmustine (Gliadel®) is a type of chemotherapy that comes in wafer form and is a relatively new form of treatment. We administer this to patients with specific types of brain tumours. This treatment is only offered if we can significantly reduce the size of your brain tumour with surgery. This procedure is known as debulking.

Carmustine wafers are about the size of a five pence coin and contain chemotherapy. A maximum of eight wafers can be inserted in the brain during surgery.

The wafers slowly dissolve over several weeks, releasing chemotherapy into the surrounding brain tissue. The aim is to kill off remaining tumour cells left behind following surgery. The wafers deliver chemotherapy straight to the site of the brain tumour itself.

Once released from the wafer, the chemotherapy stays inside the brain because of a protective membrane called the blood-brain barrier. It does not get absorbed into the blood stream so the rest of your body is chemotherapy-free.

Not all UK neurosurgery centres use Carmustine wafers.

This leaflet is only given to you if you have had Carmustine wafers inserted at the time of your surgery.

It is important that you show this leaflet to your GP/carers as they will need to read the section overleaf.

Contacts/further information

Clinical Nurse Specialist: 01223 256246 (direct dial) or via Addenbrooke’s contact centre on 01223 245151 bleep 154-506

Clinical Nurse Practitioner: 01223 216189 or via Addenbrooke’s contact centre on 01223 245151 bleep 152-090

Neurosciences Pharmacist via Addenbrooke’s contact centre on 01223 245151 bleep 152-993

Neurosciences bleep-holder via Addenbrooke’s contact centre on 01223 245151 bleep 156-0908

Team Secretary: 01223 216780 (direct dial)

On-call registrar: via Addenbrooke’s contact centre on 01223 245151 bleep 1560358

References/ Sources of evidence


ArchimedesPharma: Questions and Answers about Gliadel Implant
Will I need to come to Addenbrooke’s for treatment?
In East Anglia there are three centres that provide further treatments for brain tumour patients following your neurosurgery. These treatment centres are known as neuro-oncology departments. They are located within the main oncology centres at Addenbrooke’s, Ipswich and the Norfolk/Norwich hospitals.

We recommend that any further treatment you need is undertaken at the centre closest to your home as this will be most convenient. After your clinic review with us, we can arrange any inter-hospital referrals.

If you are classified as teenage/young adult remit (TYA) then you would need your follow up treatment undertaken at Addenbrooke’s.

Are there any side effects to the Carmustine implants?
Please contact us for advice and information if you develop any new or worsening symptoms such as:
- Seizures
- Confusion/disorientation
- Fever
- New pain/ increasing headaches
- Rash
- Visual disturbances
- Problems with infection
- CSF leak (we will need to re-admit you to hospital).

What is a CSF leak?
As the Carmustine wafers begin to dissolve, they will come into contact with the normal fluid surrounding your brain. This fluid is called cerebral-spinal fluid (CSF). It carries all the nutrients to your brain and spinal cord. This fluid should not normally leak from your wound after surgery, but it can happen. This is referred to as a CSF leak.

How do I know if I have a CSF leak?
A CSF leak is usually very easily detected. You will have a persistent ‘watery leak’ at your surgical site that does not settle, but which may vary in its severity.

Sometimes the leak happens when you have a collection of fluid within a lump on your head. Any wound dressings will quickly become soaked. It is not like a normal, oozy scab wound. The fluid is usually colourless and odourless but may leave a dried ring mark on your pillow case for instance.
Do CSF leaks with Carmustine have any associated health risks?

Should you develop a CSF leak within six weeks of your surgery date, you and your GP need to be aware that this fluid contains active chemotherapy. This can be harmful to your skin and anyone else who comes into contact with it.

You need to notify us straight away. We will need to re-admit you to stop the leak and prevent further complications. You will find all relevant contact details on page six of this leaflet.

If your GP has dealt with your CSF leak, he/she needs to contact us for advice as any dressings will need to be treated as contaminated material. Any CSF-soiled clothing or bed linen (for example pillows, pillow cases) within six weeks from your surgery will need to be disposed of according to hazardous waste guidelines.

Please bring any CSF-soiled items with you to hospital in a double wrapped plastic bag. Avoid handling the items without wearing gloves.

Carmustine and pregnancy

Although the Carmustine implants stay within your brain and are not absorbed into the blood stream we do not know what the effects are to unborn babies. We therefore advise that you take adequate protection against pregnancy (either becoming pregnant or fathering a child) during the time you are undergoing treatment. This could be for six months or longer. We also advise against breastfeeding.

Please contact your key worker for more advice and information.

What type of tumour do I have?

Carmustine wafers are only used for a type of brain tumour called ‘high grade gliomas’. These gliomas come in various stages of severity known as WHO grades III or IV.

We know from your operation that you have a high grade glioma, but we do not know its severity. This takes about a week to find out.

We need to determine this so that we know how best to treat your tumour. Further treatment options are based on the WHO grade of your tumour. Surgery is only part of the overall treatment process. We will discuss this with you in clinic when we have the full results available.

How can you be sure it is a high grade?

During your operation a sample of your tumour is sent to the laboratory for urgent review. They will be able to tell us if your tumour contains active (dividing) high grade tumour cells. Only then are we allowed to use the Carmustine wafers.

Do I need further treatment?

It is very likely that you will need further treatment either with radiotherapy, a different type of chemotherapy or a combination of the two. This depends on several factors including the grade of your tumour.

Your neurosurgeon and specialist nurse will talk through all the options with you and your family. We recommend you write down any questions you may have and bring them with you to your appointment.