

Memory difficulties and brain tumours

Our brain controls many of our thinking skills, including reasoning, attention, language and memory. Not everyone with a brain tumour will experience memory difficulties, and for those that do, the symptoms and severity will differ from person to person.

This fact sheet gives information about the memory difficulties associated with brain tumours and provides some practical suggestions for how to cope with them.

In this fact sheet:

- What is memory?
- How can a brain tumour affect memory?
- What happens if I have memory difficulties?
- What can I do to cope with memory difficulties?
- Answers to some common questions you may have about memory difficulties.

What is memory?

Memory is one of our thinking skills. (These skills are sometimes called cognitive functions.) Memory is our ability to take in, store and recall information at a later time.

There are various types or aspects of memory, but it can be broadly split into 2 types:

Short-term memory (also known as ‘working memory’)

This type of memory is used when we remember things from just a few seconds ago, such the name of a person we’ve just met.

Short-term memory lasts for approximately 20 seconds. It can be forgotten after those few seconds or can be converted into long-term memory, depending on its importance and the circumstances..

Part of short-term memory is your working memory. You use this to store information on a temporary, short-term basis, such as when you need to remember numbers to do a sum in your head.

Long-term memory

Long-term memory stores information and allows you to recall information from the past, whether this is a minute ago, a year ago or many decades ago.

Long-term memory can be further divided in to four sub-types:

- **Procedural memory**

Procedural memory involves remembering how to carry out processes and activities, such as swimming, driving and riding a bike.

- **Semantic memory**

Semantic memory is a type of memory that allows us to describe and give meaning to our world. This involves the language we use and all the concepts associated with it, for example , naming a city, describing what a cat is, or explaining what you were taught at school.

- **Episodic memory**

Episodic memory is the memory of specific events and experiences you’ve lived through, for example remembering what happened at a family member’s birthday.

- **Prospective memory**

Prospective memory is used to remember appointments or events that will happen in the future.

How can a brain tumour affect memory?

There are 3 stages involved in remembering:

- Getting information into memory (encoding)
- Keeping the information in memory (storing)
- Getting the information back out again when you need it (retrieving or recalling).

Brain tumours could cause difficulties with one or more of these stages.

Not everyone with a brain tumour will experience memory difficulties. If you do, how you're affected will mainly depend on:

- Where your tumour is in the brain (location)
- The treatment you have.

The severity and type of memory difficulties differ from person to person, so you may not have the same problems as someone with a tumour in the same location and having the same treatment.

Effect of brain tumour location in memory

Many areas of the brain are involved in storing and recalling different types of memories. For this reason, it's not always possible to accurately predict if and how a person's memory will be affected by a brain tumour.

However, two areas of the brain are particularly involved in memory – the frontal lobe and the temporal lobe. If your tumour is in these areas of the brain, it's more likely (but not definite) that your memory will be affected.

Effect of treatment

Neurosurgery, chemotherapy and radiotherapy can all have an effect on the brain that may, in turn, affect memory. Again, the effects of treatment will vary from person to person.

Surgery on the brain can cause some temporary swelling, which may affect cognition (thinking skills) in general, including your memory.

Chemotherapy and radiotherapy may also affect cognition and energy levels in general. Side-effects caused by these treatments could last for weeks, sometimes even months, after treatment has ended.

What happens if I have memory difficulties?

If you display memory problems, you'll usually be referred to a neuro-psychologist or clinical psychologist, who will run various memory tests to help identify which part of your memory functioning has been affected and to provide you ways of coping.

The tests can assess your ability to store and recall information and to solve problems. An example of these tests is you may be asked to recall a list of words that have just been read out to you.

You may hear your psychologist use the term amnesia to describe your memory difficulties. They may use different terms for:

- Loss of memories formed before you had a brain tumour or treatment . This is called retrograde amnesia.
- Difficulty remembering memories formed after you had a brain tumour or treatment. This is called anterograde amnesia, and may affect your ability to learn new information.

What can I do to help cope with memory difficulties?

Identifying exactly what kind of memory difficulties you have can help you and your healthcare team work our ways to reduce the effect these problems have on your everyday life.

Don't be too hard on yourself!

Not being able to remember things like you used to can be frustrating, stressful, embarrassing, and more.

People with memory difficulties have said it helps if you can be upfront and open about it (tell people you have difficulties) and also, where possible, see the funny side of it.

Depending on what difficulty you have and how badly it affects you, you may find some of the following suggestions useful. They have been suggested by people with brain tumours and healthcare professionals:

Make plans and organise

- **Plan ahead** - Mentally go through what you'll be doing and what you're likely to need, write it down, then put everything you need somewhere that you can't miss it, like by the front door.
- **Make lists** - Keep a shopping list on a notebook in the kitchen or on your phone, some supermarkets have apps which have a shopping list function. Add items when you run out and tick them off when you go shopping.

You could also consider online shopping - supermarkets produce a list of your favourites and recently bought items to prompt you.

- **Develop a set routine** - Having a regular routine can help you to remember what is going to happen throughout the day. Make sure you include time to rest and plan some variety, so you don't get bored.

Adapt your environment

- **Have particular places to keep things** - leave items in the same places around your home, so that you know where to look for them. For example, if you have difficulty finding your house keys, try to always leave them in the same drawer.

Or have a large bowl, near the front door, where you leave all the important things you need to take when you leave the house – keys, purse/wallet, phone, glasses etc.

- **Label drawers and cupboards** - get rid of unnecessary items and label drawers and cupboards with what is inside them – using words or pictures, whichever you find most useful.
- **Colour code your keys** - you can get coloured 'covers' for your keys. Use a different colour for each key and keep a list in your purse/wallet and on a noticeboard in your kitchen of what each coloured key is for.
- **Leave yourself reminder notes** - this can help you with things you might otherwise forget. For example, you could leave yourself a note by the front door reminding you to check that windows are closed before you leave the house.
- **Reduce noise and minimise distractions** - it's more difficult to remember or learn new things when your environment is noisy or busy.

Use memory aids

- **Mobile phones** - your mobile phone can be used in many ways to help with memory.

You can use the calendar and alarm to remind you about events and appointments.

Take photos of what you're doing in the day to look back on or add photos to your contacts to help you remember people.

Use websites, such as Googlemaps, if you're getting lost in familiar places.

You can add "in case of emergency" or "ICE" after a contact, so that someone can find an important contact, even if you can't.

- **Apps and memory games** - you can download apps for relaxation exercises and other techniques that can help reduce stress, and so help with memory.

There are many apps and online games that claim to test, train and improve your memory. However, there's no real evidence that playing memory games improves memory. You may get better at the game, but this doesn't mean the benefits last or transfer over to real life.

There is some evidence that keeping your brain active may slow down deterioration of your memory, but there are many ways of doing this. So games may help with this, but it's the mental activity rather than the games themselves, having the effect.

- **Keep a diary** - if you prefer written reminders, a diary is a good way to keep track of your plans.
- **Medication organisers or pill boxes** - if you're taking prescription medications, you may wish to buy a medication organiser or pill box to help you track what you have to take and when. These are available from most pharmacies.
- **Locator devices** - these are small electronic tags that can be attached to things, such as your keys or wallet. If you can't remember where you've left them, you press a button on a 'locator device' and the tag will beep.
(You'll need to keep the locator device in a regular, obvious place!)

Use memory techniques

- **Keep things relatively simple** - memory difficulties may affect your ability to undertake complex activities. Avoid multi-tasking - focus on one thing at a time and break down tasks into small steps. Create breaks between tasks, such as making a cup of tea or even just stand and stretch.
- **To remember a name** - when you're first told the name, concentrate and make sure you've heard the name correctly. Connect the name with something about their physical appearance, the type of clothes they wear, or their personality. Use their name in conversation and also repeat it in your head.

Afterwards picture the association you've made between their name and appearance. When you meet them again, hopefully seeing them will jog your memory into remembering the association you previously made and, therefore, their name.

Words starting with the same letter as the person's name or which rhyme with their name can also help. For example, Happy Hannah or, for a keen cyclist, Bike Mike. As an alternative, you could carry a small photo album with people's names by their pictures. Or save photos, with contacts on your phone.

- **To remember a word** - try not to worry about finding the exact word and use a different word instead. Or you could describe the word.

Don't let this put you off socialising – tell your friends about your difficulty finding words and let them know how you want them to help e.g. do you want them to prompt you?

- **To remember where you put something** - try to picture yourself and where you were when you last used it. Or picture what you were doing when you last had it.
- **To remember why you've gone into a room** - many people find that they go into a room and can't remember why. Go back to where you were when you decided to go into the room and retrace your steps. It often helps to jog your memory.
- **To remember what you've done during the day** - Talk about your day to others or yourself; write it down and look back over it. Some people use their mobile phones to take photos throughout the day to remind them.
- **Rehearse** - Once you've found the strategies and techniques which work for you, practice them with a friend or partner.

Improve your general wellbeing

Taking care of yourself can affect how well you function mentally:

- **Exercise** - exercise has been shown to help memory and thinking by affecting chemicals and blood flow in the brain, and by improving mood and sleep, and reducing stress and anxiety.

Try to exercise for at least 30 minutes, five times a week - anything that gets the heart pumping or makes you break out in a slight sweat. You can try brisk walks, swimming, cycling, dancing or tai chi, even doing the housework or the gardening!

- **Diet** - eat regular, balanced meals, and try to include your 5-a-day of fruit and vegetables. Taking time to eat your meals can also help give regular breaks in the day and time to recover mentally.

Try to drink at least 2 litres of fluid a day, and drink alcohol in moderation. If possible, give up smoking.

For more information about Diet, see our *Diet and brain tumours* webpage and fact sheet.

- **Rest and sleep** - Take plenty of breaks and rest throughout the day or even whilst doing tasks. People with brain tumours often feel fatigued for a variety of reasons and being tired can affect your ability to memorise or remember things.

Likewise, get a good amount of sleep (6-8 hours) to help with this.

- **Keep your brain active** - Keeping your brain active may help you keep your memory skills for longer.

There are many ways to do this including reading, watching or listening to the news, doing puzzles/jigsaws or games, learning a new hobby.

Try to do a variety of things so all your senses are used.

- **Stay socially active** - Research has shown that staying socially active is one

It can be difficult, as you may have lost confidence, but having good friends, volunteering for charities and other forms of social engagement seem to protect memory.

For more information, read our tips on *Taking care of your mental health and overcoming isolation*.

- **Relaxation** - Stress and worry can make it more difficult to learn or remember things. Finding that you're having difficulties with your memory can then increase the stress and worry. Learning to relax can help to break this vicious cycle.

There are many different relaxation techniques, such as:

- Slow, deep breathing - with your belly going in and out, rather than your chest; or with your eyes shut, concentrating on your breathing
- Progressive muscle relaxation - where you lie down and tense, hold and relax different sets of muscles, gradually working from your feet up to your head
- Guided imagery - where you imagine yourself somewhere peaceful and relaxing
- Listening to relaxing music or sounds, such as waves.

Get help

- **From friends and family** - Talk to them about the memory difficulties you have, how it makes you feel and how they can help. They can help you practise memory techniques, or prompt you about the technique, if you're having problems remembering something.
- **From healthcare professionals** - Speak to your healthcare team. They may be able to refer you to a neuropsychologist or clinical psychologist, who can run various tests to see exactly how your memory is affected and help work out ways to reduce the effect on your everyday life.
- **From our Information and Support Line** - 0808 800 0004
or support@thebraintumourcharity.org
We are here to help in any way we can.

Helpful resources

Alzheimer's Society

Being diagnosed with a brain tumour doesn't mean that you'll experience dementia. However, you may find some of the resources offered by the Alzheimer's Society helpful.

Alzheimer's Society is the leading support and research charity for those affected by dementia. Their website contains information about memory loss.

alzheimers.org.uk

Getting your affairs in order

If you're affected by memory problems, you may want to get your affairs in order. You may want to choose who will be your legal carer, or you may want to set aside funds for your children's education or future.

For more information, see our *Getting your affairs in order* webpage.

What if I have further questions or need other support?

You can contact our Information and Support Team in the following ways:

- Call 0808 800 0004 (free from landlines and most mobiles including 3, O2, EE, Virgin and Vodafone)
- Email: support@thebraintumourcharity.org
- Live Chat: Get in touch with us online via thebraintumourcharity.org/live-chat
- Join one or more of our closed Facebook groups: bit.ly/FBSupportGroups
- Website: thebraintumourcharity.org/getsupport

Disclaimer

This resource contains information and general advice. It should not be used as a substitute for personalised advice from a qualified specialist professional. We strive to make sure that the content is accurate and up-to-date, but information can change over time.

Patients must seek advice from their medical teams before beginning or refraining from taking any medication or treatment.

The Brain Tumour Charity does not accept any liability to any person arising from the use of this resource.

About this information resource

The Brain Tumour Charity is proud to have been certified as a provider of high quality health and social care information by The Information Standard – an NHS standard that allows the public to identify reliable and trustworthy sources of information.

Written and edited by our Information and Support Team, the accuracy of medical information in this resource has been verified by leading health professionals specialising in neuro-oncology.

Our information resources have been produced with the assistance of patient and carer representatives and up-to-date, reliable sources of evidence.

We hope that this information will complement the medical advice you have already been given. Please do continue to talk to your medical team if you are worried about any medical issues.

If you would like a list of references for any of our information resources, or would like more information about how we produce them, please contact us.

We welcome your comments on this information resource, so we can improve. Please give us your feedback via our Information and Support Team on **0808 800 0004** or support@thebraintumourcharity.org

About us

The Brain Tumour Charity is at the forefront of the fight to defeat brain tumours and is the only national charity making a difference every day to the lives of people with a brain tumour and their families. We fund pioneering research worldwide, raise awareness of the symptoms and effects of brain tumours and provide support for everyone affected to improve quality of life.

We wouldn't be able to make the progress we have without the incredible input we receive from you, our community.

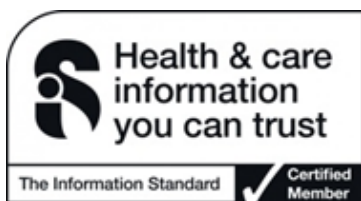
Whether it's reviewing our information resources, campaigning for change, reviewing research proposals or attending cheque presentations, everything you do helps to make the difference.

To find out more about the different ways you can get involved, please visit thebraintumourcharity.org/volunteering

We rely 100% on charitable donations to fund our vital work. If you would like to make a donation, or want to find out about other ways to support us including leaving a gift in your will or fundraising through an event, please get in touch: Visit thebraintumourcharity.org/get-involved, call us on 01252 749043 or email fundraising@thebraintumourcharity.org

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Your notes



Hartshead House
61-65 Victoria Road
Farnborough
Hampshire
GU14 7PA
01252 749990
enquiries@thebraintumourcharity.org
www.thebraintumourcharity.org

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