

**epilepsy
society**

memory

Living with memory difficulties



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This leaflet was reviewed by Dr Pam Thompson,
Head of Psychology at Epilepsy Society.

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living with memory difficulties

Throughout our lives memories are being made, stored and found by our brain. Links made between our brain cells help us to remember the thoughts, skills, experiences and knowledge that make each of us unique. Memory can be one of the key issues that affects people with epilepsy. This leaflet explores some of the issues around epilepsy and memory, and looks at what might help.

Memory is the brain's ability to store information and find it again later. Chemical and electrical changes happen in the brain when new memories are made. Making and using memories involves three stages: **learning** the information, **storing** it, then **finding** it again. Memory can be affected if any of these stages are disrupted, for example by a break in concentration.

- **Learning** – this is when you want to learn something new, such as a friend's new address. It may involve repeating the address several times or linking it to an existing memory. For example, linking the new address '1 Albert Square' to the television show Eastenders.
- **Storing** – this is when the information learnt is stored permanently in the brain.
- **Recalling** – this is the brain's way of finding and using the information that has been learnt. For example, remembering a friend's new address when sending a letter.

types of memory

Long-term memory

This is information stored over a long time. There are many types of long-term memory:

- **Semantic memory** – this is memory of knowledge and facts about people, places and things. For example, recalling that a banana is a yellow fruit, or that Edinburgh is the capital of Scotland.
- **Episodic memory** – this is memory about events or episodes in our lives. For example, conversations, holidays or recalling your first day at school. Episodic memories are personal and different for everyone.
- **Prospective memory** – this is memory for doing things in the future. For example, recalling a doctor's appointment next week or sending a card for a friend's birthday.
- **Procedural memory** – this is memory for skills and how to do things. For example, knowing how to ride a bike or to tie a shoelace. These tasks often require effort to learn but once learnt are rarely forgotten.

Short-term memory

Sometimes called 'working memory' or 'attention span', short-term memory is information that is only kept for the length of time you need to use it. Most people can usually keep about seven to nine letters, words or numbers in their mind at once.

An example of your short-term memory working is remembering a telephone number while you dial. Because you only need this type of information for a short time your brain doesn't store it. This type of information is easily forgotten unless we try to store it in our memory.

how does epilepsy affect memory?

It is not unusual for people with epilepsy to have memory problems. Problems may happen for any or all of the following reasons.

Seizures

Any type of epileptic seizure could potentially affect your memory, either during or after the seizure. If you have lots of seizures then memory problems might happen more often.

Some people have generalised seizures that affect all of the brain. Others have focal seizures (sometimes called partial seizures) that affect only part of the brain. Some people have both generalised and focal seizures.

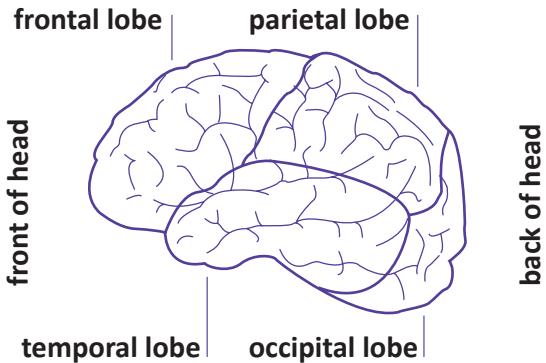


See our leaflet *seizures*.

If you have focal seizures, the way your seizures can affect your memory will depend on where in the brain the seizures happen.

The brain has two halves called hemispheres. Each half has four parts called lobes: the occipital, parietal, temporal and frontal lobes.

One hemisphere of the brain, (side view)



Abnormalities in the temporal or frontal lobes of the brain are the most common reason for memory problems in people with epilepsy.

- The left temporal lobe is important for verbal memories such as learning names and remembering facts for exams. If you have seizures that start in this area you may have problems remembering words, and get stuck mid-sentence.
- The right temporal lobe is important for visual memories like remembering a person's face or finding your way around a place.
- The frontal lobe is important for prospective memory. Seizures in this area can cause problems remembering to do things in the future.

After a seizure

You may have difficulty remembering information straight after a seizure. This is sometimes called post-ictal (after seizure) confusion and it usually goes away once you have recovered. The length of time it takes for memory to return to normal can vary from person to person.

If you have temporal lobe epilepsy you may have memory difficulties even if your seizures are well controlled. This is because the temporal lobe is responsible for creating memories.

do anti-epileptic drugs affect memory?

Memory problems can happen due to the side effects of some anti-epileptic drugs (AEDs). Drowsiness or attention problems can affect your short-term memory, and may make it difficult to learn and store new information.

You may be more likely to have memory problems if you take high doses or more than one type of AED. Memory problems rarely disappear completely following drug changes, but taking AEDs may help to improve memory by making seizures less frequent or by stopping them completely. If you are concerned about the effect of AEDs on your memory, you could talk to your doctor.



See our leaflets *medication for children, or medication for adults for children aged 13 and over.*

other things that can affect memory

Mood and concentration

Often the way you feel can affect how well you are able to remember information. Feeling confident and happy can affect the way your brain works by increasing your ability to concentrate and take in information. If you feel anxious or stressed it may be more likely that your brain will have difficulties at the 'learning' stage. Also, when you have trouble recalling information, worrying might make it harder to find the correct information.

Lack of sleep

Tiredness, lack of sleep or feeling unwell can affect concentration and memory. For some people lack of sleep can make them more likely to have seizures, for others it may be that seizures during the night causes them to be tired. Not getting enough sleep can also contribute to memory problems.

During sleep our brains process information and experiences. Research suggests that getting good quality sleep can help to make memories more stable and preserve our long-term memory.

If you have problems with sleep you could talk to your GP or consultant about referral to a specialist sleep clinic.



Age

As we get older, storing and recalling information can be more difficult. This might be because of the way the brain changes physically, and also because the demands on our memory can change.

Managing different areas of your life such as work, family, study and social life, can be complicated and may increase the chance of you forgetting things.

It can be helpful to know what aspects of your memory are better than others and what factors affect your memory.

Surgery

Memory problems are frequently reported following surgery for epilepsy. This is most common with surgery to the temporal lobe.

Memory assessments are carried out before and after surgery, but even if the surgery stops your seizures from happening you may have memory problems afterwards.



See our factsheet *epilepsy surgery*.

using memory aids and reminders

Anyone can have problems remembering information. Keeping your brain alert and active is a good thing but, on its own, may not necessarily improve your memory.

Memory aids may help you to cope with memory problems. Different aids or reminders may suit different types of memory problems and may work best if they are used regularly as part of a routine. Here are some ideas:

Sticky notes

Sticky notes, such as Post it Notes™ can help you to remember to do things. For example, sticking a note to your front door to remind you to pick up your keys before you go out.

Calendars

Using a calendar can be helpful, particularly if it is placed somewhere you will see it easily and often, such as on the fridge door.

Diaries and 'to do' lists

Using a diary can help you to keep a note of appointments, birthdays or phone numbers. Keeping more detailed notes in a diary may be helpful to keep track of people you have met, where you have been and what you did.

A 'to do' list can be useful to record daily tasks, for example, phone calls to make, bills to pay, or remembering to put the rubbish out.

Email, mobile phone and computer software packages often include diaries and 'to do' lists.

Drug wallets

These can help to remind you to take your medication and how many tablets to take. They usually hold seven small containers to keep medication in, one for each day of the week. Each container is divided into sections, usually marked morning, afternoon and evening. The containers can be removed if you are going out for the day and want to take your medication with you. Some drug wallets also have an alarm to remind you when it is time to take your medication. They can also be used to check if you have already taken your medication to avoid taking it twice by mistake.



See our factsheet [drug wallets and medication aids](#).

Alarms and mobile phones

Alarm clocks or watch or mobile phone alarms can be a useful reminder in your daily routine. For example, reminding you to take your medication or to feed a pet.

Many mobile phones also have a reminder service. With this you can write a message and then set a date and a time for the phone to send the message to you or to sound an alarm. As well as for everyday tasks, it can be a useful way of remembering something that is not part of your usual routine, for example a dentist's appointment.

Smartphones can access the internet to download software applications (apps) which add functions to your phone. There are many apps available, some include memory aids, others give useful information.

Epilepsy Society has an app for iPhones and android phones that gives first aid information, a step-by-step guide to the recovery position, and basic information about epilepsy.



Visit our website to download our free app.

other memory techniques

Some memory techniques can help the brain to store and find information. They often need practice and may not be suitable for everyone. They may be helpful when you can't use memory aids, such as in an exam.

These techniques often use rhymes, stories or images to help you to link ideas to make a stronger memory. Here are a few ideas for dealing with some common memory problems.

Remembering a word 'on the tip of your tongue'

If you have trouble remembering a word, alphabetical searching may help. In your head go through the alphabet asking yourself if the word you're looking for begins with a, b, c... etc.

If this does not work, try using a different word. If you are talking to someone at the time, you may want to tell them that it's not

quite the word you were looking for. They may try to help by suggesting the right word.

Remembering someone's name

Often the easiest way to avoid embarrassment is to ask someone to remind you of their name. The following techniques might also help.

- When you meet someone for the first time try to concentrate on their name, repeat it to yourself and use it while you talk to them.
- Imagine a picture of the person that has something to do with their name. For example, Mr Bridge sitting on a famous bridge.
- Use a rhyme, for example Joan always moans or Mr Shah drives a sports car.
- Physical features can help you to remember names, for example you could imagine Mr Pearman as a curvy pear.

It may be helpful to write their name down and try to think of a way to remember it later.

Remembering where you put something

Concentrating while you put things away can help you to avoid losing items. Take a few seconds to make a picture in your mind of the object in the place you're putting it.

Going over in your mind what you were doing the last time you had the missing item is another technique. However, physically going back to where you were is often helpful.

It can be helpful to have a filing system, a standard routine, or places to keep things.

Putting your keys in the same place when you come home means that you will know where they are. Making a note in your diary of where you have hidden a birthday present may help you to find it later.

Using sayings or rhymes

Sayings or rhymes are often used to revise for exams and to recall information. Using the first letter of each word in a sentence can help you to remember a list. For example, **R**ichard **o**f **Y**ork **g**ave **b**attle **i**n **v**ain, can remind you of the colours of the rainbow: red, orange, yellow, green, blue, indigo and violet.

Using pictures or mind mapping

Drawing a picture that represents what you are reading or revising may help you recall the information. Mind maps, or 'spidergrams', where you draw a diagram or map the information using keywords or phrases, can also be helpful.

Preparing for exams

These ideas may help you revise for exams:

- Revising in a quiet place where you won't be disturbed or distracted can help you to focus on what you're doing.
- When you revise try to link what you are reading to a personal experience or something you

already know. This may help you to recall the correct information.

- Test yourself before the exam. Past papers or revision guides can help.
- Try to get a good night's sleep before the exam. The brain's ability to recall information works better when it's alert.
- When the exam begins you may find it helpful to quickly write or draw your revision aids on rough paper. This may help you to remember what you have been revising.

Brain training

This involves doing computer-based mental exercises. There are several 'brain training' packages available. Companies that promote brain training claim that doing these exercises regularly increases brain power and improves memory and other brain functions. Some people find these exercises challenging and fun, however independent research has shown that brain training does not improve memory performance in every day life.



further information

Epilepsy Society information

Drug wallets and medication aids

Epilepsy surgery

Medication for adults

Medication for children

Seizures

Every effort is made to ensure that all information is correct. Please note that information may change after printing. This information is not a substitute for advice from your own doctors. Epilepsy Society is not responsible for any actions taken as a result of using this information.

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Epilepsy Society

Chesham Lane, Chalfont St Peter, Bucks SL9 0RJ

01494 601 300

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Epilepsy Society is the working name of The National Society for Epilepsy
registered charity no. 206186