



## Epilepsy and Memory

It is not uncommon for people with epilepsy to report problems with their memory. Sometimes these problems are the result of difficulties forming new memories and sometimes they are due to difficulties retrieving or remembering information over time. There are several reasons why people with epilepsy may experience problems with their memory.

**Seizures:** Seizure activity can interrupt the formation of new memories, especially when seizures are in the temporal lobe area of the brain. Some temporal lobe seizures can “wipe out” a memory before it becomes permanent, leading to a loss of memory for events around the time of the seizure. For people with frequent or severe seizures in the temporal lobe, there might be damage to the tissue involved in memory formation, making it generally more difficult for new memories to be formed.

Seizures can also make it harder to recall or retrieve information that you already know. Retrieving a memory is like finding a file in a file cabinet. If the file is not filed in the right place or if the system used for filing is not organized, it is much harder to find the file when you need it later. It is the same with memories. Seizures can disrupt the brain’s ability to organize the storage of new memories or search for old memories in a systematic way.

People with frequent or severe seizures are most at risk for problems with memory. People with seizures originating in the frontal or temporal lobes of the brain are more likely to have problems with memory than people with seizures coming from other areas. Interictal activity (abnormal electrical activity in the brain that can occur in between seizures) can also make learning and remembering more difficult.

**Pre-existing conditions:** People can have seizures for many different reasons. The underlying cause of a person’s seizures may also contribute to memory problems. For example, many people with epilepsy have subtle abnormalities in the ways their brains are structured or the ways their brains function. These abnormalities can cause seizures and can also make learning and remembering more difficult.

**Medications:** Anti-Epileptic Drugs (AEDs) often help to improve memory by preventing seizure activity. However, many AEDs can cause drowsiness or problems with attention. When this happens, it can be more difficult for a person to learn and remember new information efficiently. It might take longer to learn new information or it may need to be repeated several times before it sinks in.

**Fatigue and emotional factors:** Memory can also be affected by other factors associated with epilepsy including fatigue, anxiety, stress, and depression. People who are tired, nervous, stressed, or depressed can have trouble with concentration and their thinking may be slowed or clouded. These conditions make it much more difficult to learn new information or remember information from the past.

**Attention and cognitive issues:** For some individuals, memory problems are really problems in other aspects of thinking that are necessary for memory. Problems with concentration and attention, organization and planning, or speed of thinking may also be giving rise to what appear to be problems with memory.



### **Getting Help:**

It is important to talk with your doctor if you have concerns about your memory. Your doctor can work with you to help sort out the possible reasons for your memory problems. As part of this, your doctor may refer you to see a neuropsychologist to better understand the nature and type of memory problems you are having. You also may need other diagnostic procedures such as blood work, additional EEGs, or brain imaging. With this information, your doctor will be able to advise you on the best way to treat or manage your memory difficulties.

### **Things You Can Do to Support Your Memory:**

1. Keep a journal/calendar or an electronic organizer to remind yourself of important events, appointments, telephone numbers, etc.
2. Carry a small notebook or voice recorder with you to write down/record important information. If you are attending an important meeting (with your doctor, with the bank, etc) you may want to take a friend or family member with you to help recall the details of the discussion.
3. Keep a notepad by the telephone to write down anything important (e.g., caller's name and phone number, date, reason for calling).
4. Take time to focus and concentrate when learning important information. Avoid multi-tasking. Minimize distractions.
5. Frequent review and repetition of information can often improve recall later on. If you are trying to learn something new, reviewing or practicing it over and over will increase your chance of remembering it later.
6. Don't try to learn too much at once. Break down the information into manageable amounts of material and learn a little bit at a time.
7. Use mnemonic strategies to help you remember. For example, visualization, associating pictures with people's names, using rhymes to learn a list of important words, or mentally retracing your steps and try to remember where you left something can all be very effective in enhancing your memory.
8. Keep your belongings in set place in your home (e.g. keys, cheque book). Let the people you live with know you are doing this for a reason to ensure they will not to move these items.
9. Create a system or routine so you don't forget to take your medication. A great way is to use a pill organizer. Another method is to program the alarm on your cell phone or watch to remind you to take your medicine during the day.
10. Find ways to relax. You are less likely to learn or retrieve information effectively when you are rushed or stressed.
11. Be healthy. Exercising, getting good sleep, and eating well can have positive effects on your memory.
12. For students with memory difficulties, you may need to speak to a student advisor or the counseling center to ask for special assistance or accommodations when you are in class or writing exams.

Everyone forgets things and we each remember things differently. Different methods works better for others so it's important to find which works best for you.

When you are using memory strategies for the first time, expect that things will take longer to do as you apply the memory strategies. Don't give up, because using these strategies will eventually make you more efficient.

### **Resources:**

[www.epilepsy.com/EPILEPSY/thinking\\_memory](http://www.epilepsy.com/EPILEPSY/thinking_memory)

[www.epilepsy.org.uk/info/memory.html](http://www.epilepsy.org.uk/info/memory.html)

Approved for circulation in December 2008 (sja)

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**#2500-900 West 8<sup>th</sup> Avenue, Vancouver, BC V5Z 1E5**  
**Phone: (604) 875-6704 Fax: (604) 875-0617 [info@bcepilepsy.com](mailto:info@bcepilepsy.com) [www.bcepilepsy.com](http://www.bcepilepsy.com)**