Learning to Remember

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Memory is one of the most important human functions and one that is often impaired after a traumatic brain injury. Memory helps us respond to the environment, use our experiences to change our behavior, and relate to other people.

Researchers think of memory as consisting of several different functions that all work together. One way to think about it is by thinking about the process of forming new memories. First you must get some information through your senses (usually by seeing or hearing something new). This immediate form of memory does not last very long. The information is then transmitted to a short-term or "working" memory system. This is the system you use to hold something in mind, like the number of the pizza parlor, from the time you look it up until the time you dial the number. Finally, if the information is to be remembered, it is transmitted to more long-term storage. This is the sort of memory you use to remember a friend's name or what you did yesterday. This is called relational memory.

Relational memory also has several parts. There is episodic memory, which is your memory of events from your own life. Then there is semantic memory, which is memory for general facts. So, remembering that the first President of the United States was George Washington is semantic memory; remembering the day you learned about George Washington in fourth grade is episodic memory. This distinction is important for people with traumatic brain injury. It turns out that brain injury is more likely to impair episodic memory than semantic memory. Soyou may have more trouble remembering new events in your own life than remembering general facts.

There are two more types of memory that are worth thinking about. Procedural memory is for the kind of learning you can't explain. It usually involves motor functions, like learning to ride a bike, or learning to play tennis. You get better with practice, so you must have "learned" something, but you can't teach it to someone just by talking about it. People with brain injury tend to have good procedural learning. This can be a great thing to take advantage of. If there are simple tasks that must be done on a regular basis, you can use repetition and procedural learning to get good at those tasks even if you can't remember that you did them before.

Another type of memory is prospective memory. This is the ability to remember to do things in the future (like stop on the way home and get milk, or take your medications on time). This type of memory often becomes impaired after brain injury.

So what are some helpful strategies? Well, it depends on exactly what kind of brain injury you have had and what types of memory are giving you trouble. But here are some ideas:

1. **Write everything down.** This won't make your memory better, but it will help you get things done. It often helps to have a structured notebook to write everything so you are not searching for papers left lying around (or you can use an electronic device, some of which are designed for people with brain injury). Some sections in the notebook might be:

- Things I have to do
- What I did today (so you can review if you tend to forget)

- Important phone numbers and addresses
- A journal for writing ideas and feelings
- What to do in an emergency
- What happened to me; etc.

Try to link looking in your notebook to things you already do each day. For instance, whenever you eat a meal--check your notebook! And remember, learning to use your notebook requires memory too, so give it practice and time.

2. **Repetition, repetition, repetition**. Did I mention repetition? The way the brain knows something is important to remember is through repetition, so the more times you repeat something, the better your chance of remembering it. But it does not help to practice meaningless movements or lists of words; the practice must be targeted to a meaningful skill or task that you need to perform in your life. Also keep in mind, it is better top practice or study one hour per day for seven days than to practice for seven hours on the same day. Your brain needs time in between to store what you learned.

3. **Adjust the environment**. If you keep turning on the wrong burner on the stove, try using color codes to match the burner to the knob. If you forget when you are supposed to eat, try setting a timer. If you often forget what you need to bring with you, place it in front of the door the night before, so you have to trip over it to leave without it. If you have specific tasks to do each day, like homework, set aside an hour that is only for that task and do it the same time every day.

4. **For remembering something you are reading, try the PQRST technique**. This stands for preview, question, read, state and test. First, preview, or skim, the material to get a sense of what it is about, then generate a set of questions you hope to answer in the reading, read the material carefully, next state in your own words what you just read, and finally test yourself and go back and look up anything you could not remember.

5. There are also some interesting **rehabilitation techniques** that have shown promise in helping people with brain injuries. One is the method of vanishing cues. If you are trying to help someone with a memory disorder remember specific pieces of information, it is helpful to show the information and then slowly takeaway parts. For example, if the person must remember that the computer uses hardware. Show hardware, then show hard____. Slowly remove all cues until the person is remembering on their own. Another thing to keep in mind is to make all learning error-free. Avoid the temptation to ask a person with memory impairment to take a guess. It then becomes hard for the person to recognize the accurate response from their own incorrect guess. Always structure learning time so that there is no chance of an error being generated that might end up being stored in memory.

Living with a memory problem can be challenging. Try to work up the courage to tell friends, co-workers and family members that you have a memory problem so that they don't become frustrated and angry with you. There are many wonderful resources you can direct them to read. The Brain Injury Association of Connecticut maintains a library of helpful articles about memory as well as other topics pertinent to brain injury. Please call for further information.

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From the Brain Injury Alliance of Connecticut.