

## **Improving Your Memory**

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As we age, our bodies change. Hearing decreases, the heart gets slightly larger, and muscle mass, breathing capacity and bladder capacity all decrease. The kidneys also become less efficient.

As with the rest of the body, the brain also changes. This is not due to any specific disease, but rather, the natural process of aging. The two biggest areas of change to the brain include something called atrophy, or a decrease in the size of the brain, and changes to the blood vessels deep inside the brain.

Related to this process are some normal changes in thinking. Learning is slowed. It takes more time to learn new things, and if information is presented quickly or with a lot of distractions, we may never learn it. It also takes longer to remember (retrieve) information from memory. Attention to detail decreases and multitasking becomes more difficult. Our ability to find words also declines. These changes are an annoyance, but do not truly limit or overly impact daily functioning.

### **Potential Causes for Changes in Thinking Abilities**

Sometimes there are changes that are not normal, or beyond the scope of normal aging. Often these changes are caused by a condition or substance that we have control over, such as:

#### *Medications*

Many medications are essential, but can have side effects on our thinking abilities. As a starting point, review all of your medications with your physician(s) to see if any could be negatively impact your thinking.

*Cardiac Risk Factors*-If it is bad for the heart, it is likely bad for the brain.

- Hypertension
- Diabetes
- High Cholesterol
- Poor Nutrition
- Lack of Exercise
- Smoking

#### *Other common causes of thinking difficulties*

- Sedentary lifestyle
- Alcohol/Illicit Drug Use
- Caffeine
- Stress

- Mood changes
- Metabolic Abnormalities
- B-12 Deficiency
- Thyroid Irregularities
- Dementia

### **Cancer and the Brain**

Cancer can impact cognitive functioning in multiple ways. There can be a direct effect of the cancer on the brain including the space it occupies, its impact on blood flow to other parts of the brain, as well as direct physiological effects. Cancers from other parts of the body can also metastasize to the brain. This is most common with skin, lung and breast cancer.

Some of the treatments for brain cancers can impact cognitive functioning. This can occur with surgery, radiation, and chemotherapy. Lastly, fatigue is a big issue for brain cancer patients and fatigue can significantly impact your thinking.

### **How information is processed**

At any given time, we are being bombarded with multiple pieces of information. Some is relevant or important to us; most is not. First we have to hear it, see it, smell it, taste it, and/or touch it. Then we have to pay attention to it, understand it, and put it into memory. If we do not sense it properly, pay attention to it, or understand it, there may be nothing for us to remember later. Once we place the information into our memories, we need to be able to retrieve it when needed. A failure anywhere along this system can impact your thinking. So, what do we do?

### **Improving the Different Aspects of Thinking**

Here are some practical suggestions to address some of the changes that you may be experiencing in your thinking.

#### *Suggestions to improve attention*

If you do not focus on the information when it first arrives, there may be nothing to remember later, so:

- Make sure that you are getting enough sleep. If you are tired, you cannot focus as well
- Plan ahead
- Take breaks and change tasks frequently to maintain interest
- Do the least interesting thing first when your arousal is best
- Minimize distractions in the environment
- Use ear plugs or a white noise machine
- Some people focus better with a little background noise, such as soft music
- Focus on one thing at a time

### *Suggestions to Improve Comprehension*

The better that you understand something, the better you will remember it, so:

- Ask questions
- In conversation, make sure that you look at the person and listen closely; do not be afraid to ask to have something repeated or to ask the person who is speaking to you to speak slowly.
- Paraphrase and repeat it back and ask for feedback

### **Memory**

In talking about memory, there are a lot of different terms that get used. First, let's define some of those terms:

#### *Short vs. Long*

- **Short Term Memory:** Information that we need to remember for just a few seconds or minutes
- **Long Term Memory:** Information that is stored for more than a few minutes

#### *Memory Processes*

- *Encoding/Acquisition:* The process by which information is acquired, organized and processed for storage.
- *Consolidation:* The process by which information is converted from temporary active processing to permanent storage; in other words, transferred from short term to long term memory.
- *Retrieval:* The process by which previously learned information is recalled or brought into awareness.

### ***Improving Memory***

#### *How to deal with problems with encoding and consolidation*

- Minimize distractions
- Focus on only one thing at a time, when possible
- If it's important, repeat it
- Ask questions; more info makes for better learning
- Put the information into your own words
- Try to associate the information with something relevant to you
- Keep things as structured and organized as possible

*How to deal with problems with encoding and consolidation*

Keep it Organized by:

- Organization is key to learning and remembering
- Designate a specific place to keep important things
- Arrange the information under a common theme
- Chunk (or group) the information
- Make lists
- Calendars, Daily Planner and Electronic organizers
- Memory notebook
- Post-it notes
- Use alarm clocks and timers as reminders

*How to deal with retrieval problems*

- Cues and reminders are key
- Reminder notes
- Alarm clocks/timers
- Memory notebook
- Daily Planner

*If you retain information better when you can visualize it...*

- Use written lists
- Visualize the information you want to remember (e.g. picture the story as it's being told)
- When you can, draw it out

*If you are better verbally...*

- Get the information verbally. If it's a drawing or map, talk it out
- Read information out loud (more than one sense helps with learning)
- Tape record important information
- Take notes

The brain is not a muscle, but the more active you are, the more connections that are built within the brain. Any activity that you enjoy that stimulates the brain could potentially be helpful be it reading, writing, crosswords, puzzles etc. They really do help.

## References

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