



# Improve Memory

**A Guide on How to Improve Your Memory**

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# Introduction

Many scientific experts will tell you that we just do not have the ability to recall facts, images or events perfectly as if we had a photographic memory. Unfortunately, although people may say that they do have a photographic memory; this simply isn't true, as it does not exist.

But do not worry as through this book we will show you the steps that you can take to help improve your memory. In fact, with a little time and a lot of practice, many people are able to gain the ability to memorize what seems to be an impossible amount of data and information.

Even if you just want to remember where you actually left your keys from the night before, then this book should help you.

You know that in order to gain muscular strength you need to exercise, well the same goes for actually increasing your ability to remember things. Your brain needs exercise, as well as being nurtured. So your diet needs to be good, and you need to look at taking up much healthier habits.

Unfortunately, because our brains are so complex, they need a lot of effort in order to get them in the best shape possible. There are a number of things that you can look at doing which will help you improve the capacity of the retrieval mechanism in your brain. But first, let us take a look at how it is we remember things.

To put it in simple terms, our memory is the activity carried out in our brain to recall

information that we have gained through experiences in our lives. However, it is a complex process which involves various parts of the brain, and serves us all in very different ways. It can either be short term or long term.

With short term memory, you will find that your brain is able to store certain pieces of information for only a few seconds or minutes. Unfortunately, the problem with this memory is that it is very fragile, and if it were to retain all the information it receives, your brain would soon be telling you that it has no more space. Plus, each person's short term memory is only meant to hold around 7 items at any one time, and this is why, although you may be able to remember a new telephone number for a few minutes, you will often find that when you are going to buy something online with your credit card, you need it beside you, because it actually has more than 7 items on it.

Long term memory is all to do with the information that you are making an effort to retain, both consciously and unconsciously. This is because the information may be particularly personal and meaningful to you, or it is because it is something that you need in order to complete a task or to take some exams. However, there is some information that you retain in your long term memory which will need you to make a conscious effort in order to recall it, such as a personal memory which relates to a specific experience or time in your life, known as episodic memory, or it may be some factual data that you need to recall, and this is known as semantic memory.

The other type of long term memory that we all have is known as procedural memory, and this is where your memory will recall skills or routines that you

use so that you do not have to consciously need to recall them.

There are certain parts of the brain which are especially important in relation to not only the formation, but also the retention of memories, and these are as shown below.

Hippocampus - This is found deep in the human brain, and plays the largest role in the brain processing information as memory.

Amygdala - This is an almond shaped piece of the brain which is found close to the hippocampus and processes a person's emotions. This particular area helps to imprint memories into the brain which involve emotions.

Cerebral Cortex - This is the outer layer of the human brain, and is where most long term memory is stored in various different sectors. It will all depend on where particular memories are stored, as to what process the information involves. So language will be stored in one sector, sensory input into another, problem solving into yet another sector and so on.

As well as the above, the memory also involves communication occurring between the brains various network of neurons and cells (millions of which are activated by chemicals in the brain known as neurotransmitters).

# Chapter 1 –

## How Memory is Gained

Previously, we took a look at what memory is and how it works. In this chapter, we will take a look at how our brain actually acquires, then consolidates and finally retrieves the information that it has placed in our memory.

### 1. Acquisition

Any new information that enters the brain will go along the pathways between the neurons and those areas where it needs to be stored. In order for our brains to encode this information, your memory needs to concentrate, and unless you can focus intently on the information that you are trying to memorize, you will find that as the old saying goes “it goes in one ear and out the other”. This is why many teachers will often be found pushing their students to actually pay attention to what they are being taught during their lessons.

### 2. Consolidation of Memories

Because you have concentrated on encoding the new information in your brain, the hippocampus will now send a signal to it to store this information as a long term memory. You will find that this happens more easily when the information you’re retaining relates to something that you already know about, or if it happens to stimulate an emotional response in you.

### 3. Retrieval

When it comes time for you to recall certain pieces of information, then the brain will activate the same pattern of cells which were used to store the information initially. If you need to recall a certain piece of information more frequently than other pieces, then it becomes much easier.

However, unfortunately, as we grow older, our memory begins to decline, and there are several reasons as to why the brain's ability to retain, as well as retrieve, memories changes.

First, as we grow older, the hippocampus is extremely vulnerable and will deteriorate as we grow older. Because of this, it affects our ability to retain information.

Secondly, as we grow older, we begin to lose neurons, and this in turn affects the activity of the neurotransmitters and their receptors to work correctly.

Third, as we grow older, then we will often experience a decrease in the amount of blood flowing to the brain, and this means less nutrients actually getting to it. Because we have less nutrients going to our brain, it will make our brain activity less efficient compared to that of the brain in a younger person.

But these changes are often seen as a slowing down in a person's ability to absorb, store and retrieve new information, and not actual memory loss. In fact, most of the factual information that a person has gathered over the years remains largely intact, as does our procedural memory (recall tasks and routines).



But there are some older people who may well develop more significant problems in relation to their memory as a result of either some disease such as Alzheimer's, or because they have had a stroke, they have been injured or their nutritional intake is poor. They may also have problems in relation to their memory because of either emotional or physiological issues in their lives.

## **Chapter 2 –**

# **So Just How Can I Improve my Memory**

If you are one of many people who think that they have a poor memory, then this may be because you do not have such effective ways in which you are able to not only acquire the information, but the way in which your brain processes it. However, unless you are suffering from some type of disease, disorder or injury, then you should have the ability to improve your memory.

Below we will look at some various ways in which you can help to improve your memory.

### **1. Always Pay Attention**

If you do not pay enough attention to something that you want to learn about, then your brain does not have the chance to encode the information and then store it away for future reference. It takes around 8 seconds of someone intently focusing on a particular piece of information in order for it to be processed through their hippocampus and then in to the appropriate section of their memory center. So it is important that you concentrate on one thing only at a time, and try not to multi-task. If you are like some people, and find that you become distracted very easily, then search out a quiet corner where you know you will not be interrupted.

2. Make sure you acquire the information in a way which suits the way you learn.

Most of us are visual learners, and so find that they learn best when they are either reading or looking at things that they need to know about. While others are auditory learners and find it better to learn things when they are listening. These types of people may find it much easier to memorize information by recording it and then listening to it until it is remembered.

3. Get all your senses involved

Don't just rely on your eyes, even if you are someone who learns and remembers things visually. Why not read out loud what you need to memorize, and try and recite it to yourself rhythmically? You will be amazed at how much better your memory becomes. Also try and relate the information that you are trying to memorize to colors, textures, smells as well as tastes. Many people have found that by actually physically rewriting the information that they need to imprint on to their brain helps them.

4. Relate the information to be gained to something you already know about.

When collecting any new data, connect it to information that you already have stored in your memory and which you are able to recall.

5. Organize the information

If you need to, write things down in either an address book or diary, or on a calendar. If you are dealing with much more complex material or data, then take notes and then reorganize these notes in to specific categories later on when you have time.

If you need to, use both words and pictures to help you learn the information that you wish to retain in your memory.

## 6. Learn to Understand and Interpret Complex Material

When you are trying to learn more complex material or subjects, then focus on just understanding the basic ideas of the matter rather than memorizing only isolated parts of it. Look at being able to explain to someone else in your own words about the subject or matter.

## 7. Rehearse the information that you have obtained

It is important that you review every thing you have learned each day on the same day, and then review it every so often. Also, if you can, over learn about a particular subject or matter, as you will often find that you can begin to recall the information as if it was second nature to you.

## 8. Be Positive and Stay Motivated

It is important that you keep telling yourself that you want to learn the things that you need to remember. Also remind yourself that you can learn about things and then remember them. If you actually tell yourself that your memory is bad, then this will actually hamper not only you, but also your brain in being able to remember things. But by being positive, you are actually helping yourself improve your memory.

# Chapter 3 –

## **A Great Technique for Improving Your Memory**

There are many different ways in which a person can help themselves improve their memory. In this particular chapter of the book, we will be looking at Mnemonic devices (the initial "M" in this word is silent).

These particular devices help a person by providing them with clues in order for them to remember something. In most cases, a person will associate the information that they are trying to remember with either a visual image, a sentence or with a particular word.

The most common types of mnemonic devices are as follows:-

### 1. Visual Images

It is important that a person uses positive and pleasant images, as the brain will often block out those which they find to be unpleasant. Also, make them as vivid, colorful as well as three dimensional, as this makes it all the easier for you to remember them.

### 2. Words

Also, when using sentences, then make sure that the first letter of each word in it represents the

initial of what it is you are trying to remember. There are millions of musicians around the world who used the sentence "Every good boy does fine" in order that they could memorize the lines of the treble staff. The first letters of each word in the above sentence represent the notes E, G, B, D and F. Also you will find that medical students, in order to learn the groups of nerves, bones and other features of the human body, will use nonsense sentences in order that they retain the information much more easily, as well as being able to recall it when required.

### 3. Acronyms

This is where a person will use initials when then creating a pronounceable word. For example musicians will remember the spaces between the lines on the treble staff by saying the word "face" which stands for the other notes F, A, C and E.

### 4. Rhymes and Alliteration

When I was younger, we learned the rhyme "30 days hath September, April, June and November. But all the rest hath 31 except for February alone." So why not use this in the same way for other things, such as if you are trying to recall a co-workers name? By providing symbolization to them, you should be able to recall their name without any problems. For example, suppose you work with a guy called Mike, who happens to be a little funny, you can try remembering him as "Mad Mike".

### 5. Jokes

Use these to remember facts, figures and names. Often, people find it easier to remember things which are either funny or weird, rather than something which is a little more ordinary.

## 6. Chunking Information

With this mnemonic device you will arrange a long list of information into smaller groups or sections, making them much easier to remember. Often people find that it is much easier to remember their Social Security number once they have arranged it into much smaller groups of digits, say 3 or 4 in each group, rather than trying to remember the whole 9 digits together.

## 7. Loci Method

This is both a very ancient and effective way for a person to remember a lot of information, say for example, a speech that they will be giving. What you need to do with this method is associate each part of what it is you have to remember with a particular landmark or spot on a route that you know very well, for example, the route you use each day to get to work.

## 8. Exercise your Brain

This is probably one of the best ways of improving your memory. Unfortunately, the less you use your brain, then the more chances you will have of being unable to retain information. So if you can, exercise it as much as possible and you will soon find that you are not only able to process information better, but also find it much easier to remember the information as well.

There are now computer games available both for your PC and many of the handheld computers, such as Game Boy and PSP, which are specifically designed to help exercise the brain. One of the most common of these that is regularly advertised both on TV, in magazines and online is the "Dr Brain Game".

# Chapter 4 –

## A Healthy Lifestyle for an Improved Memory

By treating your body well, you should be able to enhance your abilities at being able to process and recall information.

Below, we will take a look at some different healthy habits you could integrate in to the life you lead at the present time in order to help improve your memory.

### 1. Exercise

Taking regular exercise helps to increase the flow of oxygen to the brain. This, in turn, reduces the risk for you suffering from disorders which can lead to memory loss, such as cardiovascular diseases or diabetes.

Also, it helps to improve the effects that the helpful brain chemicals have, as well as protecting those brain cells you already have.

### 2. Manage your Stress Levels

The stress hormone known as Cortisol can actually cause damage to the hippocampus in the brain if a person is unable to relieve the stress that they are feeling. In most cases, a person who is feeling stressed will find it much more difficult to concentrate on things, which in turn results in



them actually not being able to process and retain information easily.

### 3. Improve your Sleeping Habits

We all need sleep, and it is very important, as it helps the memory to consolidate the information we have obtained during the day. Unfortunately, if you are someone who suffers from insomnia or sleep apnea, or just generally do not like to sleep more than a few hours each night, then during the day, you will be feeling tired and will find it very difficult to concentrate.

### 4. Do Not Smoke

Anyone who smokes is at a greater risk of suffering from a vascular disorder, which in turn can result in them having a stroke, or their arteries become constricted, and so the delivery of oxygen to the brain is diminished.

### 5. Improve your Diet

Aren't we all being told these days that a good diet is one which contains fruit, vegetables as well as whole grains and healthy fats? Not only can a good diet provide our body with plenty of health benefits, it can also help to improve a person's memory.

Research carried out is indicating that certain nutrients will help to not only nurture, but also stimulate the functions of the brain.

#### a. Vitamin B6, B12 and Folic Acid

These help to protect the brains neurons by breaking down homocysteine, which is an amino acid and which is toxic to the nerve cells.

But they also help to make red blood cells, which our bodies need in order to transport oxygen around it, including to the brain.

The best places to get a good source of Vitamins B from are in spinach, as well as other types of dark green leafed vegetables, broccoli, asparagus, strawberries, melons as well as black beans and other forms of legumes. Also, you should increase your intake of fruit and soybeans.

b. Antioxidants

Specifically, we are looking at Vitamins C and E, along with Beta Carotene. They help to fight any free radicals in the body, which are atoms that are formed when oxygen is able to interact with certain molecules in the body. They are highly reactive, and can cause damage to the body's cells. But antioxidants are able to interact with these safely, and so are able to neutralize them. These antioxidants can help to improve the flow of oxygen through our bodies and to the brain.

The best places to find these particular antioxidants in are blueberries, and all other sorts of berries, along with sweet potatoes, red tomatoes, spinach as well as broccoli and green tea, nuts and seeds. Also, citrus fruits and liver are a great source for getting antioxidants as well.

c. Fatty Acids - Omega 3

These are concentrated in the brain and are associated with a person's cognitive functions. These count as healthy fats in a

person's diet, as opposed to those which are not, such as saturated and trans fats. They help to protect a person against inflammation, as well as having a high level of cholesterol in their body.

The best places to obtain Omega 3 fatty acids is by eating cold water fish, such as salmon, herring, tuna, mackerel or halibut. Also, walnuts, walnut oil, flaxseed and its oil are a good source of Omega 3 fatty acids as well.

Plus, as we grow older, we are more likely to suffer from a deficiency of both Vitamin B12 and Folic Acid, and so it is important that older people use a supplement to counteract such deficiencies. If you are someone who is not particularly keen on fish, then also include an Omega 3 supplement as part of your new diet regime. However, no nutrient will work effectively without us consuming the right sorts of foods as well. Therefore, it is important that as part of your healthy diet regime, you ensure that you eat plenty of colorful plant foods and choose those fats which can help to keep your arteries clear. In the long run, not only your body, but your brain will be thanking you for the changes that you have made.

# **Chapter 5 –**

## **Remember Things by Association**

Our memory works by remembering things through association. What this means is that every piece of information we have in our memory is connected to another piece in one way or another.

So if you were given the word, say, "apple", and then you may do something like this in order to remember what an apple is: "red, round, sweet, doctor, tree and fruit". Which as you can see is where such things as "an apple a day keeps the doctor away" may be a saying that people regularly use in order to remember that eating good healthy foods, such as fruit, will keep them from getting ill.

Also, if you were asked by some what the 7<sup>th</sup> letter of the alphabet was, then the chances are you would start off by saying to yourself "a, b, c, d, e, f, g" and then out loud you would say G. During this you have been using association, as you know that the first letter of the alphabet is A and you have kept on going through them until you have ended up the letter that you were looking for.

Although many people think that they have a bad memory, in truth, they don't. In fact, most of us have really good memories; it's just that we are not well practiced in using them to their full effectiveness. Yet, if this is true, then why do

some people find it so hard to remember certain things?

As previously mentioned, our memory works using association. If there is no obvious association between certain things, then it makes it very difficult for us to remember them. Suppose, for example, you need to remember that the plane you are catching takes off at 2pm. However, as there is nothing about this particular plan which would suggest the number 2 to you, then it is easily forgotten, and unfortunately you may find yourself ending up missing your flight.

However, if as mentioned above, our memory works by association, then we should actively work at finding a way to create an association between the two bits of information relating to the flight. So, for example, you could imagine in your mind that the plane you need to catch at 2pm has 2 wings. There then is your association "2 wings = 2pm". In this way, we are 10 times more likely to remember the time at which the flight is due to take off, even once it has gone from our short term memory.

However, you may well find that when certain pieces of information are not obviously related, you will need to be a little more creative with linking things together in order to form an association. But it really isn't as hard as it may seem at first. When you were at school, you were always being taught rhymes and acronyms at school which helped you to remember things, so why not use the same method now? For example, one such one you may have learned at school was "Never Eat Shredded Wheat", which provides you with the points of the compass "North East South West".

These particular methods work, as they form an easy to remember, but yet clever association between

themselves and the information that it is we are trying to remember.

The whole idea when using association in order to remember things is to be creative. There is no need for you to invent a rhyme or a poem for each time you want to remember something, in most cases, just thinking of some picture in your mind which links pieces of information together, which is either unusual or silly, can make it much easier to remember certain things.

If you want to see how effectively association works, then look at the some of the words shown below and try to come up with something that will associate the word on the left with the one on the right. Say, for example, with the first pair you should imagine a mouse that has a long tail and when it is sat still, it tail curls round in to the shape of the letter S. Whereas with popcorn, the easiest way to associate it with chair is that you are watching your favorite movie, either at the cinema or at home, and eating popcorn while lounging in a chair.

Mouse	s
Train	Bridge
Popcorn	Chair
Bermuda	Triangle
Carrot	Donkey

So now you have begun to form associations between these groups, you may have had trouble with 1 or 2 of them. Now cover up the words on the right hand side of the list and see if you can name them using the word that is associated with them on the left. If you have been able to form a vivid but clear association between each of them, you will be amazed at just how many of them you will be able to quickly and easily remember.

# Chapter 6 –

## Ways to Improve Your Memory

In this final chapter, we will look at some different ways which can help you to improve your memory.

All the memory devices we are looking at help to create ways of putting information together so it makes it much easier for us to remember it.

### 1. Grouping

If you need to remember large groups of numbers or items, then split them into much smaller units. For example, if you need a very long number, say your social security number, which may be 569724981, then divide it up as follows: 569 724 981.

### 2. Classify information according to type

For example, why not arrange all 37 of Shakespeare's plays into logical groups made up as follows: - Comedy, history and tragedies?

### 3. Rhyming

Use the methods for producing poetry such as rhyming, rhythm and alliteration. For example, if you want to remember what happened to all of Henry VIII's wives then you could do the following:-

Died, Beheaded, Died  
Died, Beheaded, Survived

#### 4. Grammatical Rules

This is, for example, relating to such items as "I" before "E" except after "C".

#### 5. Spelling

Always take the first letter or syllables in order to form a new word which spells out the information that you want to remember.

So if you are looking to remember the 5 great lakes for a geography exam, then you could say H.O.M.E.S., which then tells you that they are Huron, Ontario, Michigan, Erie and Superior.

#### 6. Narration

This is a good imaginative process, as it helps you to create a sentence, story, cartoon or visual picture in your mind in order for you to remember some vital information.

#### 7. Mapping

Using structure helps to produce a diagrammatic representation of the relationship found between major ideas, sub categories and all the supporting detail and information that you need to remember.

This is especially effective for students when studying for exams and studying text books. What they should do is connect a list of unrelated items by using either exaggerated, stupid or absurd associations.

This is a great way, for example, for remembering the planets as follows:-



The MERCURY thermometer was in the mouth of VENUS. Her navel was a huge EARTH. On the other side of her mouth was a MARS candy bar. While the fingers on her hand and wrist spelled out JUPITER and the 6 rings of SATURN were spinning around her head, while above, 7 rain drops from URANUS were falling, and these gradually became 8 musical notes for NEPTUNE. But what is truly amazing is that Venus is standing on PLUTO the dog, whose tail happens to look like the number 9.

## 8. Placement

Place units of information that you need to remember in terms of their location or in chronological order.

## 9. Experiencing

Using this device, you will either act out, or go through the motions in order to get a feel for an idea.

Write out the word or information that you need to remember, and then, using your index finger, go over and trace the shape of the word and visualize it in your mind.

# Conclusion

If you are one of many who always forget things or information, this is because your memory is selective. In fact, everybody will always remember certain things that are important to them, and anything else just gets deleted to our memory.

However, we do all have the potential to remember anything that we want to remember. It is just a matter of us exercising the old grey cells (the brain) enough. In this book, we have hopefully provided you with some ways in which you can exercise your brain, as well as making changes to the life you lead, and which, in turn, will help to improve your memory.

But the best ways in which you can actually improve your memory, is through becoming more active. The more your body is active and then so will be your brain. Also, exercise is helping the flow of oxygen around the body and to the brain, which is all beneficial to improving your memory.

So if you really do want to make your memory much improved, and want to be able to retain information that is important to your life and the way you live, then follow the steps provided in the chapters of the book, and you should be able to achieve your desired goals.

No longer do you need to worry about writing everything down in order to remember it all, instead, by being able to improve your memory, life will certainly start to become a little easier for you.