

7 Tricks to Improve Your Memory

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STORY AT-A-GLANCE

- › A healthy lifestyle can support your brain health and even encourage your brain to grow new neurons, a process known as neuroplasticity
- › Your brain's hippocampus — the memory center — regenerates throughout your entire lifetime (even into your 90s), provided you give it the right tools to do so
- › Lifestyle factors that may improve memory and promote neurogenesis include exercise, eating right and getting proper sleep
- › Other memory tricks include avoiding multitasking, learning a new skill, playing brain games and using mnemonics to help you remember information

It was once believed that brain function peaked during early adulthood and then slowly declined, leading to lapses in memory and brain fog during your golden years. Now it's known that our modern lifestyle plays a significant role in contributing to cognitive decline, which is why exposure to toxins, chemicals, poor diet, lack of sleep, stress and much more can hinder the functioning of your brain.

The flip side is also true in that a healthy lifestyle can support your brain health and even encourage your brain to grow new neurons, a process known as neurogenesis. Your brain's hippocampus — the memory center — is especially able to grow new cells. It's now known that your hippocampus regenerates throughout your entire lifetime, even into your 90s, provided you give it the tools to do so.

These "tools" are primarily lifestyle-based, which is wonderful news. You don't need an expensive prescription medication or any medical procedure at all to boost your brain and your memory. You simply must try out the following tricks to improve your memory.

7 Lifestyle-Based Ways to Improve Your Memory

1. **Eat right** — The foods you eat — and don't eat — play a crucial role in your memory. Fresh vegetables are essential, as are healthy fats and **avoiding sugar**. Research has shown daily sugar consumption impairs spatial memory and inhibits neurogenesis in the hippocampus.¹ However, a high-fat, moderate-protein, low-net-carb **ketogenic diet** is crucial for protecting your brain health and preventing degeneration that can lead to Alzheimer's.

One of the most striking studies showing the effects of a high-fat/low-carb versus high-carb diets on brain health revealed that high-carb diets increase your risk of dementia by a whopping 89%, while high-fat diets lower the risk significantly.²

In my book, "**Superfuel: Ketogenic Keys to Unlock the Secrets to Good Fats, Bad Fats, and Great Health**," cowritten with James DiNicolantonio, Pharm.D., we explain how the omega-3 fat DHA is an essential structural component of your brain and is found in high levels in your neurons. When your omega-3 intake is inadequate, your nerve cells become stiff and more prone to inflammation as the missing omega-3 fats are substituted with omega-6 instead.

Once your nerve cells become rigid and inflamed, proper neurotransmission from cell to cell and within cells becomes compromised. Low DHA levels have been linked to memory loss and Alzheimer's disease, and some studies suggest degenerative brain diseases may potentially be reversible with sufficient DHA.^{3,4}

Coconut oil is another healthy fat for brain function. It contains medium-chain fats, also referred to as MCTs, which are converted into ketones, an excellent mitochondrial fuel. Researchers found that ketones may work as an alternative

energy source for malfunctioning brain cells,⁵ which has been found to reduce symptoms in patients with Alzheimer's disease.

- 2. Exercise** – Exercise encourages your brain to work at optimum capacity by stimulating nerve cells to multiply, strengthening their interconnections and protecting them from damage.

During exercise nerve cells release proteins known as neurotrophic factors. One in particular, called brain-derived neurotrophic factor (BDNF), triggers numerous other chemicals that promote neural health and directly benefits cognitive functions, including learning.

A 2010 study on primates published in *Neuroscience* revealed that regular exercise not only improved blood flow to the brain but also helped the monkeys learn new tasks twice as quickly as nonexercising monkeys. This is a benefit the researchers believe would hold true for people as well.⁶

Exercise improves both brain structure and function, with research showing it significantly increases hippocampal volume in older adults with probable mild cognitive impairment.⁷ To get the most out of your workouts, I recommend a comprehensive program that includes high-intensity exercise, strength training, stretching and core work, along with plenty of daily nonexercise movement.

- 3. Stop multitasking** – Used for decades to describe the parallel processing abilities of computers, multitasking is now shorthand for the human attempt to simultaneously do as many things as possible, as quickly as possible. Ultimately, multitasking may slow you down, make you prone to errors and make you forgetful.

The opposite of multitasking is mindfulness, which helps you achieve undistracted focus. Students who took a mindfulness class improved reading comprehension test scores and working memory capacity, as well as experienced fewer distracting thoughts.⁸

If you find yourself trying to complete five tasks at once, stop yourself and focus your attention back to the task at hand. If distracting thoughts enter your head, remind yourself that these are only "projections," not reality, and allow them to pass by without stressing you out. You can then end your day with a 10- or 15-minute meditation session to help stop your mind from wandering and relax into a restful sleep.

- 4. Get a good night's sleep** — Research from Harvard indicates that people are 33% more likely to infer connections among distantly related ideas after sleeping,⁹ but few realize that their performance has actually improved.

Sleep is also known to enhance your memories and help you "practice" and improve your performance of challenging skills. The process of brain growth, or neuroplasticity, is believed to underlie your brain's capacity to control behavior, including learning and memory. Plasticity occurs when neurons are stimulated by events, or information, from the environment.

However, sleep and sleep loss modify the expression of several genes and gene products that may be important for synaptic plasticity. Furthermore, certain forms of long-term potentiation, a neural process associated with the laying down of learning and memory, can be elicited in sleep, suggesting synaptic connections are strengthened while you slumber.

As you might suspect, this holds true for infants too, and research shows naps can give a boost to babies' brainpower. Specifically, infants who slept in between learning and testing sessions had a better ability to recognize patterns in new information, which signals an important change in memory that plays an essential role in cognitive development.¹⁰

There's reason to believe this holds true for adults, too, as even among adults, a mid-day nap was found to dramatically boost and restore brainpower.¹¹ You can find [33 tips to help you get the shut-eye you need here](#).

5. Play brain games – If you don't sufficiently challenge your brain with new, surprising information, it eventually begins to deteriorate. What research into brain plasticity shows, however, is that by providing your brain with appropriate stimuli you can counteract this degeneration.

One way to challenge your brain is via brain games, which you can play online via websites like Lumosity.com. Michael Merzenich, Ph.D. and Professor Emeritus at the University of California, whom I previously interviewed, has pioneered research in brain plasticity for decades. He developed a computer-based brain-training program that can help you sharpen a range of skills, from reading and comprehension to improved memorization and more.

The program is called Brain HQ, and the website has many different exercises designed to improve brain function. It also allows you to track and monitor your progress over time. While there are many similar sites online, Brain HQ is one of the oldest and most widely used.

If you decide to try brain games, try to invest at least 20 minutes a day, but no more than five to seven minutes is to be spent on a specific task. When you spend longer amounts of time on a task, the benefits weaken.

According to Merzenich, the primary benefits occur in the first five or six minutes of the task. The only downside to brain games is that it may become just another "task" you need to fit into an already busy day. If you don't enjoy brain games, you can also try learning a new skill or hobby (see below).

6. Master a new skill – Engaging in "purposeful and meaningful activities" stimulates your neurological system, counters the effects of stress-related diseases, reduces the risk of dementia and enhances health and well-being.¹²

A key factor necessary for improving your brain function or reversing functional decline is the seriousness of purpose with which you engage in a task. In other words, the task must be important to you, or somehow meaningful or interesting. It must hold your attention.

For instance, one study revealed that craft activities such as quilting and knitting were associated with decreased odds of having mild cognitive impairment.¹³ Another study found that taking part in "cognitively demanding" activities like learning to quilt or take digital photography enhanced memory function in older adults.¹⁴

The key is to find an activity that is mentally stimulating for you. Ideally this should be something that requires your undivided attention and gives you great satisfaction, an activity you look forward to doing, such as playing a musical instrument, gardening, building model ships, crafting or many others.

7. Try mnemonic devices – Mnemonic devices are memory tools to help you remember words, information or concepts. They help you to organize information into an easier-to-remember format. Try:

- Acronyms, such as PUG for "pick up grapes"
- Visualizations, such as imagining a tooth to remember your dentist's appointment
- Rhymes – If you need to remember a name, for instance, think "Shirley's hair is curly"
- Chunking, which is breaking up information into smaller "chunks," such as organizing numbers into the format of a phone number

3 More Smart Tips for Brainpower

If you're serious about improving your memory and your cognitive function, you'll also want to know about these three important variables for brain health.

- **Vitamin D** – Activated vitamin D receptors increase nerve growth in your brain, and researchers have also located metabolic pathways for vitamin D in the hippocampus and cerebellum of the brain, areas that are involved in planning, processing of information, and the formation of new memories.

Vitamin D increases nerve growth factor, which promotes brain health, while low vitamin D is associated with cognitive impairment and dementia.¹⁵ Appropriate sun exposure is all it takes to keep your levels where they need to be for healthy brain function. If this is not an option, a vitamin D3 supplement may be necessary.

- **Time restricted eating** – Time restricted eating (TRE) is another powerful intervention. It mimics the eating habits of our ancestors and restores your body to a more natural state that allows a whole host of metabolic benefits to occur.¹⁶

TRE involves limiting your eating window to six to eight hours per day instead of the more than 12-hour window most people use. Ideally, you'll want to stop eating for several hours before bedtime, then start your eating window in mid- to late morning after you wake up.

TRE may improve cognitive function and protect against neurological diseases such as Alzheimer's disease¹⁷ thanks to the production of ketone bodies¹⁸ and BDNF,¹⁹ which activates brain stem cells to convert into new neurons and triggers numerous other chemicals that promote neural health.

- **Gut health** – Your gut is your "second brain," and your gut bacteria transmit information to your brain via the vagus nerve, the tenth cranial nerve that runs from your brain stem into your enteric nervous system (the nervous system of your gastrointestinal tract).

There is a close connection between abnormal gut flora and abnormal brain development, and just as you have neurons in your brain, you also have neurons in your gut – including neurons that produce neurotransmitters like serotonin, which is also found in your brain and is linked to mood.

Quite simply, your **gut health can impact your brain function**, psyche and behavior, as they are interconnected and interdependent in a number of different ways. In addition to avoiding sugar, one of the best ways to support gut health is to consume beneficial bacteria.

You can use a probiotic supplement for this, but I'm particularly fond of using **fermented vegetables**, because they can deliver extraordinarily high levels of beneficial bacteria.

The Choline-Brain Connection

Choline is an essential nutrient your body makes in small amounts. However, you must consume it through your diet to get enough. In adults, choline helps keep your cell membranes functioning properly, plays a role in nerve communications, prevents the buildup of homocysteine in your blood (elevated levels are linked to heart disease) and reduces chronic inflammation.

In pregnant women, choline plays an equally, if not more, important role, helping to prevent certain birth defects, such as spina bifida, and playing a role in brain development.

Prior research has concluded that choline intake during pregnancy "super-charged" the brain activity of animals in utero, indicating that it may boost cognitive function, improve learning and memory, and even diminish age-related memory decline and the brain's vulnerability to toxins during childhood, as well as conferring protection later in life.²⁰

If you're pregnant, making sure your diet includes plenty of choline-rich foods is important, as research shows higher choline intake led to changes in epigenetic markers in the fetus.²¹ Specifically, it affected markers that regulate the hypothalamic-pituitary-adrenal (HPA) axis, which controls hormone production and activity.

The changes in fetal genetic expression will likely continue into adulthood, where they play a role in disease prevention. According to a study published in the journal *Nutrients*, only 8% of U.S. adults are getting enough choline (including only 8.5% of pregnant women).²² Krill oil is a simple solution, which can boost choline levels after a single dose.²³ Aside from krill oil, eggs — particularly the yolks — are another excellent choline source.

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