The Mind Health Report
*Secrets to Unlocking Your Mind for Work, Love and Life*
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# 5 Strategies for Saving Your Memory

If it feels like your memory just isn't quite as sharp as it used to be, you're not alone. Some degree of memory loss is a common complaint, especially as people get older.

But age-related memory loss is not universal, and not every aspect of memory falters as the years go by. In fact, "memory" is often used as an umbrella term to refer to overall cognitive (thinking) functions.

Yet memory is just one aspect of cognition (others include awareness, perception, reasoning, and judgment) and there are even different forms of memory, some of which remain the same or can even improve with the passage of time.

To find out more about how and why memory loss happens and how you can protect your memory as the years pass, The Mind Health Report consulted George T. Grossberg, M.D., Samuel W. Fordyce professor and director of geriatric psychiatry in the department of neurology and psychiatry at the Saint Louis University School of Medicine, and Barry Gordon, M.D., Ph.D., a professor of neurology and cognitive science at the Johns Hopkins Medical Institutions in Baltimore.

## What's Going on Inside Your Brain?

"What's typically called age-related memory loss is probably a number of different things," Dr. Gordon says. "There's a wide range of 'normal' when it comes to memory, and as people get older, there's much wider divergence in mental capacity. Most of the time, when you suspect you have a serious memory problem, you're wrong."

In a way, bemoaning the state of your memory is like complaining about the weather, which is a generality that doesn't account for nuances such as heat, humidity, wind speed, barometric pressure, air quality, and other factors.

In the case of memory, there's short-term memory, which includes working memory; and long-term memory, which includes declarative memory, episodic memory, implicit memory, procedural memory, and other forms of recall. Not all aspects of memory decline as you get older.

"What generally happens is that the ability to recall certain pieces of information, particularly names and dates, is not as quick and ready as it used to be," Dr. Grossberg says. "It isn't gone, and given a little time, it will come back."

In addition, it can take longer to learn new

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## Surprising Memory Thieves

Most people understand that head trauma, whether it's from a fall or a car accident, can be harmful to your brain. Every time you get a concussion, plaques form in the brain that suffocate the nerve cells, Dr. Grossberg explains.

However, besides head trauma, a wide array of medical conditions can take a toll on your memory. These include:

- Stress, anxiety, and depression
- Sleep apnea and other sleep disorders
- Emphysema and chronic obstructive pulmonary disease (COPD)
- Chronic kidney disease
- Metabolic syndrome, cholesterol abnormalities, and diabetes
- Thyroid disorders
- High blood pressure, certain heart conditions, and silent (asymptomatic) strokes
- Infections
- Excessive alcohol intake
- Vitamin B12 deficiency
- Medications (such as antihistamines, sedatives, anticholinergic drugs, diuretics, tricyclic antidepressants, and others)

If you have any of these conditions, keep them under good control for the sake of your memory as well as your overall health.

If you suspect a particular medication may be compromising your memory, talk to your doctor about it and see if there may be an alternative that won't have that effect.

"Try to be on as few medications as possible," Dr. Gordon advises. "It's a good idea to periodically have a review with your doctor" to see if all the medications you're taking are still necessary.

information or master new skills as you get older.

"The parts of the brain that are involved in laying down new memories may not be functioning as efficiently," explains Dr. Gordon.

In fact, as people age there can be a kind of mental logjam or gridlock because they simply know more things. This can explain why the "tip-of-the-tongue" phenomenon — where a name or phrase seems to be just beyond your recall — happens more often as the decades pass.

## How Memory Works

Memory function involves three critical stages:

- Acquisition (learning the information)
- Consolidation (encoding and storing the information)
- Retrieval (pulling the information out of storage)

If a glitch occurs in any of the three stages, the whole system breaks down and memory can fail.

Without sufficiently focusing on information, a person won't be able to store it in his or her memory, or retrieve it from storage later. This is one of the drawbacks of multitasking. (See "Does Multitasking Improve Brain Function?" page 4.)

"The neural connections among the brain cells are not quite as rapid and fluid [when they age]," Dr. Grossberg explains. "Your memory will perform better if you prioritize and do one thing at a time."

In addition, the brain's hippocampus — an area that is involved in the consolidation and transfer of information from short-term memory to long-term storage — shrinks with age, and there is a decrease in neurotransmitters (brain chemicals) such as acetylcholine, dopamine, and serotonin. These chemicals are important for different aspects of memory and other intellectual functions.

Certain medical conditions and medications can also affect your memory function. (See "Surprising Memory Thieves," above.)

But the news about your aging brain isn't entirely bad. While your ability to have total

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recall or to learn new information quickly may decline somewhat as you get older, other cognitive functions (such as knowledge, vocabulary, and other aspects of intelligence) are likely to remain stable.

Procedural memory — recall of skills like how to ride a bicycle — remains intact, too. Meanwhile, wisdom and judgment actually become stronger as you get older and benefit from life experiences.

Fortunately, there's plenty you can do to prevent age-related memory decline. By sticking with healthy lifestyle habits and continually challenging your mind, you can preserve and even strengthen your memory.

And if you've already begun to experience age-related memory loss, it may be reversible. Recent research with animals suggests that with the right stimulation, age-related memory defects could be undone.

Here are five ways you can protect your memory for the long haul.

## 1. Exercise Every Day

Everyone should do some kind of aerobic activity, such as brisk walking, every day to enhance the flow of blood and oxygen to the brain. This simple step will reduce the risk of developing hypertension and diabetes, which can compromise memory and overall brain function.

"The more aerobically fit you are, the better your memory function is," Dr. Gordon explains.

Indeed, in a study involving 1,324 adults, researchers at The Mayo Clinic found that those who regularly performed moderate physical exercise during midlife (ages 50 to 65) had a 39 percent lower risk of developing "mild cognitive impairment." This describes a stage between normal, age-related memory loss and early Alzheimer's disease.

Meanwhile, those who exercised moderately later in life had a 32 percent lower risk of impairment.

## 2. Eat a Brain-Friendly Diet

Dr. Grossberg recommends the Mediterranean diet, which is rich in fruits and vegetables, whole grains, fish, and seafood, for maintaining memory. Fruits and vegetables are rich in antioxidants, which can protect your brain and body from unstable molecules called free radicals.

It's also wise to regularly consume omega-3 fatty acids, which are found in canola oil, walnuts, and flaxseed, as well as coldwater fish such as:

- Salmon
- Tuna
- Lake trout
- Anchovies
- Sardines

Besides being good for your heart, omega-3 fatty acids protect the brain against oxidative stress caused by free radicals and help with proper signaling between nerve cells.

In a recent study published in the journal *Neurology*, researchers recruited 1,219 cognitively healthy adults over 65, followed their dietary patterns for more than a year, and then tested their blood for beta-amyloid, a protein associated with memory problems and Alzheimer's disease.

They found that those who consumed more omega-3 fatty acids in their diets had significantly lower levels of this beta-amyloid in their blood.

Other nutrients didn't play a role in beta-amyloid levels.

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*By Dr. Gary Small*

# Does Multitasking Improve Brain Function?

As I was getting my haircut one recent morning, I simultaneously checked my email, played Scrabble on my phone, sipped a cup of green tea, and occasionally brushed hairs off my phone's screen to read incoming text messages. Most of us call this experience multitasking, and we are doing it more and more.

The human brain can handle this kind of thing when the tasks are automatic. For instance, I can easily listen to music while walking my dog, or read the morning newspaper while eating breakfast.

But when the tasks are more complex, multitasking or rapid task-switching can become more challenging. And then we tend to make mistakes — like when we write an email to one person while carrying on a conversation with someone else.

## For Most, Multitasking Is Willy-Nilly

The question is: Do multitaskers improve their brain function over time?

In general, our brains become more efficient at practicing a particular mental task the more that we do it. Research conducted at UCLA shows that after learning memory techniques, volunteers perform better at memory quizzes while their functional MRI scans actually show less brain activity. Their brains use less energy to perform better.

Multitasking requires several simultaneous mental skills — filtering out irrelevant information, managing short-term memories, and switching tasks quickly. With focused training, we can improve each of these skills.

But most people don't systematically focus their attention on building these different mental skills.

For most people, multitasking is not a regimented brain training exercise. Instead, we just search and respond to whatever input comes our way in a willy-nilly fashion.

Dr. Clifford Nash and his colleagues at Stanford University found that heavy multitaskers perform worse on tests of task-switching ability, probably because they have trouble filtering out interference. His group also found that chronic multitasking disrupts short-term memory, especially in older people.

## Focus on One Task at a Time

In fact, while multitaskers tend to believe that their brains are more efficient, they're wrong. Studies show that when switching back and forth from one task to another, our neural circuits take a small break in between. This process reduces brain efficiency as the frontal lobe executive centers activate different neural circuits when attention shifts from task to task.

It is possible to improve our multitasking skills, depending on the type and difficulty of each task. For example, studies of surgeons show they can improve accuracy and speed of non-surgical task performance when they listen to music.

In these situations, music appears to enhance brain efficiency. Listening to music and performing manual tasks activates different parts of the brain; thus, effective multitasking sometimes involves different brain regions.

Other research has shown that when volunteers are motivated to perform multiple competing tasks, they will use both sides of the brain region performing the task, rather than just one side. It seems that when we use more parts of our brain, our multitasking abilities improve.

Multitasking has become a necessary skill of modern life. We have to acknowledge its challenges and adapt accordingly. Whenever possible, focusing on one task and avoiding task-switching will improve efficiency.

The next time I get a haircut, I will try to exercise both hemispheres of my brain, and make sure I am listening to the background music in the salon as I brush fallen hairs from my smart phone and keep up with the word games with my friends. If I'm going to multitask, I might as well try to improve my brain function at the same time. □

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## Shortcuts to Improving Your Memory

If you want to enhance your memory, train your brain to focus on what you need to remember and give it the right cues to access vital information when you need it. Here are some quick, effective methods to help do that:

**Pay attention.** You won't remember something if you didn't focus on the information in the first place. When you're reading or listening, concentrate on the information that's being presented and think of nothing else. Do the same when parking your car in a lot: "Look around to see where you parked it," Dr. Gordon advises, and note landmarks on your parking ticket.

**Harness the power of repetition.** To remember someone's name after being introduced, address the person by name several times during the course of your conversation. Use the same trick to help yourself remember important phone numbers and other details.

**Pace yourself.** "You will learn better if you try to learn [material] in small chunks spread over time, rather than in one large lump all at once," Dr. Gordon says. Divide a memory challenge into small parts and tackle them one at a time, over a reasonable time period. Similarly, it helps to use "spaced rehearsal" techniques: If you practice withdrawing important information from your memory bank for one minute once an hour over 10 straight hours, it's more effective than rehearsing it for 10 consecutive minutes.

**Organize your environment.** Create special places for easily misplaced but essential items — such as your keys, cell phone, wallet, checkbook, and glasses. Similarly, keep the TV remote and your grocery list in the same spots so you don't have to go hunting for them.

**Use memory aids.** Whenever possible, take the pressure off your memory by using calendars, schedules, lists, a smart phone, and other organizers to help you remember important dates and what you need to do.

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## 3. Challenge Your Brain Regularly

Just as it's important to use it or lose it when it comes to physical fitness, the same is true of brain fitness. Exercising your brain — by doing a variety of challenging mental tasks — can stimulate the formation of new connections between nerve cells and help old ones function more efficiently.

Researchers from Switzerland found that cognitive interventions can produce substantial improvements in various aspects of memory performance, including immediate and delayed verbal recall, among healthy older adults and those with mild cognitive impairment.

You can create these benefits on your own by making an effort to read mentally stimulating material, play new games (such as chess or bridge), learn a new musical instrument or language, do crossword or Sudoku puzzles, or play difficult, mind-twisting games.

"Anything that engages your interest and keeps your mind active and involved is beneficial," Dr. Gordon says.

The greater the variety of mentally stimulating activities you're engaged in, the better it is for your brain. Think of it like cross-training for your brain. Even using your non-dominant hand to do things you'd normally do with your dominant hand may cause new brain circuitry to grow.

## 4. Remain Socially Active

Increasing participation in social activities by joining clubs, seeing friends regularly, volunteering for causes you believe in and engaging in similar activities can help keep your mood upbeat and your brain functioning at a high level.

Simply having regular conversations with people will challenge your mind to adapt and respond to new lines of inquiry and to think in new ways to see other people's points of view.

Having social support and connection can also help reduce stress, which compromises memory.

In an analysis of prior medical literature,

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# Mind Health Insights

## Sharing Has Its Rewards

If you've ever gotten a thrill from talking about yourself in a conversation or by posting personal news on a social media site, there's a good reason: It turns out that sharing such information triggers the same sensation of pleasure in the brain as eating good food or receiving money.

In a series of five experiments involving functional magnetic resonance imaging scans of the brain, researchers at Harvard University found that self-disclosure was strongly associated with increased activation in the brain's mesolimbic dopamine system — which is associated with the experience of reward and satisfaction.

In some cases, people were even willing to forego monetary rewards for the chance to talk about themselves rather than another subject. This was true even though there wasn't any bragging or grandstanding involved.

"Participants in our studies disclosed very mundane information about themselves, such as whether they prefer coffee over tea or enjoyed snowboarding," noted study co-author Diana Tamir, a researcher in psychology at Harvard. "But people valued sharing even this mundane information."

And that wasn't surprising, considering that the pleasure centers of their brains lit up like pinball machines when they did share.

## The Hidden Risk of Depression

Depression and dementia often occur together as people get older. Scientists have long wondered whether one causes the other or they simply coexist.

To find out, researchers from the University of California, San Francisco, and the healthcare system Kaiser Permanente Northern California conducted a long-term study involving 13,535 Kaiser Permanente members.

They found that having a history of depression at midlife leads to a 20 percent increased risk of developing dementia later in life, whereas being depressed late in life increased the risk of developing dementia by 70 percent. By contrast, those who were depressed at midlife *and* late in life had an 80 percent higher risk of developing dementia.

In particular, those who suffer depression at midlife and later had a three-fold increased risk of vascular dementia, which is caused by impaired blood flow to the brain.

Meanwhile, people who suffered depression only later in life had a twofold increased risk of getting Alzheimer's disease (the leading cause of dementia).

The researchers speculate that in this group depression may actually be an early sign of Alzheimer's.

## 'Berry' Good for Your Brain

Consuming large amounts of blueberries and strawberries appears to reduce or delay cognitive decline in older adults by up to two and a half years, according to a study by researchers at Brigham and Women's Hospital and Harvard Medical School.

Why is this? Because berries are rich sources of flavonoids, plant compounds that have powerful antioxidant and anti-inflammatory properties.

Because stress and inflammation are believed to contribute to cognitive impairment, increasing your consumption of flavonoids can prevent or counteract these effects.

This study offers a good reason to top your cereal with berries in the morning or add berries to your ice cream or vanilla yogurt after dinner.

## The Ugly Side of Winning

Forget about trying to be a gracious loser — it's the winners who have real work to do.

In a series of recent studies, researchers in France and at Ohio State University had people compete on a particular task. After being told whether they did better or worse than their opponent, the participants were asked to sound a loud, painful noise blast against the other person.

Surprisingly, those who outperformed their partners issued the noise blast more aggressively against the people they outperformed, rather than vice versa.

What's behind this? "People are more aggressive when they feel powerful, as they may when they win a competition," explained study co-author Brad Bushman, Ph.D., a professor of communication and psychology at Ohio State.

Even though the "winners" in this case didn't really hold any power or influence over their partners who lost, a similar psychological state was activated, leading to more aggressive behavior, the researchers speculate.

"I think just being aware of the tendency for winners to stomp down losers is a step in the right direction," Bushman says. "Winners could try to be more gracious." □

## Memory Changes That Are Normal, Changes That Are Not

Surveys have found that Alzheimer's disease is the greatest fear among older adults, notes Dr. Grossberg. "But there's a huge difference between normal age-related changes and Alzheimer's disease."

One of the distinguishing features is whether there's a change in a person's memory or recall that makes it hard for him or her to function on a daily basis.

If your ability to make decisions, solve problems, put information in a proper sequence, and your judgment and insight are intact, you can probably cross Alzheimer's off your worry list. Here's a look at what's normal and not normal when it comes to forgetting:

**NORMAL:** You forget where you parked your car in a parking lot.

**NOT NORMAL:** You forget what your car looks like.

**NORMAL:** You can't remember the name of a movie you saw a week ago.
**NOT NORMAL:** You see it again and have no recollection of having seen it before.

**NORMAL:** You forgot the name of a neighbor you saw at the grocery store but recalled it once you got home.
**NOT NORMAL:** Days later you still can't remember her name or that you've lived down the street from her for years.

**NORMAL:** You don't remember certain parts of last summer's vacation.
**NOT NORMAL:** You can't remember anything about last summer's vacation including where you went.

Because many people tend to be their own worst critics, Dr. Gordon suggests relying on family and friends before jumping to a conclusion.

"The best guide to whether you're really having a memory problem is people who know you," he says. "Ask people who know you well if they're worried about your memory or if they've noticed any significant changes."

If a person has experienced some of the more worrisome memory glitches (like those listed as "not normal"), if their memory gets worse quite suddenly, if their memory or other cognitive changes are accompanied by abrupt alterations in mood or personality, or such patterns interfere with the ability to function in everyday life, then he or she should see a doctor for a thorough medical evaluation.

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researchers from the United Kingdom found that cognitive stimulation programs that take place in a social setting can improve brain function even in people with mild to moderate dementia.

## 5. Make Sleep a Priority

Sleep is vital for your memory and overall cognitive function because it helps your brain encode and consolidate new information, and add it to your existing knowledge base.

In addition, getting adequate sleep allows you to retrieve information more efficiently from your memory bank. That's why studying new material before going to bed can help you remember it better the next day, Dr. Gordon says.

Because of these effects, everyone needs to make an effort to carve out ample time for sleep and take steps to enhance the quality of your slumber.

How? By sticking with regular sleeping and awakening times, exercising during the day (not close to bedtime), getting sun exposure at mid-day to keep your body's internal clock running smoothly, avoiding caffeine after noon, eating light in the evening, and doing a relaxing activity before turning in for the night.

The cumulative effect of these steps can add up to better overall memory function. When researchers from UCLA and the University of Maryland recruited older adults from two continuing-care retirement communities and had them participate in an educational program on memory training, physical activity, stress reduction, and a healthy diet, they experienced significant improvements in memory function after six weeks.

In particular, the participants performed better on recognition of word pairs and encoding and recalling new verbal information — and they felt like their memory ability improved significantly.

"The trick to keeping your memory high-functioning later in life is to keep it challenged by staying mentally active and modifying your lifestyle by doing things that are good for your heart," Dr. Grossberg says. "In general, what's good for the heart is good for the brain," he adds. □

# Ask the Doctors

**The Mind Health Report editors seek out top doctors across the nation to provide answers to your mind health concerns. Please include your full name, city, and state when submitting. If you have a question, please e-mail it to: mindreport@newsmax.com.**

### When I am stressed, I get diarrhea. Is there a connection between the digestive system and emotions?

**— Daniel Z., Salem, Ore.**

**Dr. Koufman responds:** When you get excited or stressed, everything moves faster — including your digestive system! At command central of this function is the vagus nerve, which most of us have never heard of.

The word vagus means "wanderer." This nerve controls the voice, burping, swallowing, nausea, vomiting, and coughing, as well as the stomach and the intestines. It basically wanders throughout the body.

The vagus is a cranial nerve because it begins in the brain and exits the head at the skull base. Its control center is in the brainstem, in close proximity to many other nuclei that manage everything from fainting to acid reflux to, yes, diarrhea.

In the brain, the emotions stimulate vagal control centers all the time; overstimulation causes vagus nerve dysfunction.

The most common emotionally-triggered, stress-related problems we see are air swallowing, acid reflux, and diarrhea, sometimes called irritable bowel syndrome.

Other than relaxation activities such as meditation and yoga, fiber supplements, anti-diarrhea medicines such as Imodium, anticholinergic drugs, and antidepressants such as amitriptyline are often effective. Finally, avoid stimulants, especially soft drinks, energy drinks, and coffee.

Of course, before beginning any treatment, consult your doctor.

**Dr. Jamie Koufman** is the Director of the Voice Institute of New York and co-author of *Dropping Acid: The Reflux Diet Cookbook & Cure*. She is one of the world's authorities on reflux disease.

### What would cause someone to start feeling sluggish and tired all of a sudden along with unexplained weight gain?

**— Carolyn G., Santa Barbara, Calif.**

**Dr. Christianson responds:** There could be many causes, but one of the most common today is a disorder of the thyroid gland.

We are facing a silent epidemic of thyroid disease, with about 30 million Americans suffering from either overactive thyroid, underactive thyroid, or thyroid cancer. The majority of these are women who have hypothyroidism (underactive thyroid). It's more common than diabetes, heart disease, and breast cancer, and affects every cell of the body.

The most common symptoms are hoarseness, difficulty swallowing, unexplained weight gain and muscle soreness, fatigue, and depression.

Blood tests can determine whether the TSH, or thyroid-stimulating hormone, is within normal ranges. But often, what's within normal range for one person may be abnormal for another, so if you're not feeling better within a matter of months, ask your doctor for more comprehensive testing.

The usual treatment is giving the patient a synthetic thyroid hormone or preferably desiccated thyroid extract freeze-dried from pigs, which contains a more bioidentical and complete form of thyroid hormone.

**Dr. Alan Christianson, NMD,** is the author of *The Complete Idiot's Guide to Thyroid Disease* and a frequent contributor to CBS TV's *The Doctors*. He lives in Scottsdale, Ariz.