

## How to Improve Your Memory



### Tips and Exercises to Sharpen Your Mind and Boost Brainpower

A strong memory depends on the health and vitality of your brain. Whether you're a student studying for final exams, a working professional interested in doing all you can to stay mentally sharp, or a senior looking to preserve and enhance your grey matter as you age, there are lots of things you can do to improve your memory and mental performance.

#### Harnessing the power of your brain

They say that you can't teach old dog new tricks, but when it comes to the brain, scientists have discovered that this old adage simply isn't true. The human brain has an astonishing ability to adapt and change—even into old age. This ability is known as *neuroplasticity*. With the right stimulation, your brain can form new neural pathways, alter existing connections, and adapt and react in ever-changing ways. The brain's incredible ability to reshape itself holds true when it comes to learning and memory. You can harness the natural power of neuroplasticity to increase your cognitive abilities, enhance your ability to learn new information, and improve your memory.

#### Improving memory tip 1: Don't skimp on exercise or sleep

Just as an athlete relies on sleep and a nutrition-packed diet to perform his or her best, your ability to remember increases when you nurture your brain with a good diet and other healthy habits.

#### When you exercise the body, you exercise the brain

Treating your body well can enhance your ability to process and recall information. Physical exercise increases oxygen to your brain and reduces the risk for disorders that lead to memory loss, such as diabetes and cardiovascular disease. Exercise may also enhance the effects of helpful brain chemicals and protect brain cells.

#### Improve your memory by sleeping on it

When you're sleep deprived, your brain can't operate at full capacity. Creativity, problem-solving abilities, and critical thinking skills are compromised. Whether you're studying, working, or trying to juggle life's many demands, sleep deprivation is a recipe for disaster. But sleep is critical to learning and memory in an even more fundamental way. Research shows that sleep is necessary for memory consolidation, with the key memory-enhancing activity occurring during the deepest stages of sleep.

#### Improving memory tip 2: Make time for friends and fun

When you think of ways to improve memory, do you think of "serious" activities such as wrestling with the New York Times crossword puzzle or mastering chess strategy, or do more lighthearted pastimes—hanging out with friends or enjoying a funny movie—come to mind? If you're like most of us, it's probably the former. But countless studies show that a life that's full of friends and fun comes with cognitive benefits.

#### Healthy relationships: the ultimate memory booster?

Humans are highly social animals. We're not meant to survive, let alone thrive, in isolation. Relationships stimulate our brains—in fact, interacting with others may be the best kind of brain exercise. Research shows that having meaningful relationships and a strong support system are vital not only to emotional health, but also to brain health. In one recent study from the Harvard School of Public Health, for example, researchers found

that people with the most active social lives had the slowest rate of memory decline. There are many ways to start taking advantage of the brain and memory-boosting benefits of socializing. Volunteer, join a club, make it a point to see friends more often, or reach out over the phone. And if a human isn't handy, don't overlook the value of a pet—especially the highly-social dog.

### **Laughter is good for your brain**

You've heard that laughter is the best medicine, and that holds true for the brain as well as the body. Unlike emotional responses, which are limited to specific areas of the brain, laughter engages multiple regions across the whole brain. Furthermore, listening to jokes and working out punch lines activates areas of the brain vital to learning and creativity. As psychologist Daniel Goleman notes in his book *Emotional Intelligence*, "laughter...seems to help people think more broadly and associate more freely." Looking for ways to bring more laughter in your life? Start with these basics:

- **Laugh at yourself.** Share your embarrassing moments. The best way to take ourselves less seriously is to talk about the times when we took ourselves too seriously.
- **When you hear laughter, move toward it.** Most of the time, people are very happy to share something funny because it gives them an opportunity to laugh again and feed off the humor you find in it. When you hear laughter, seek it out and ask, "What's funny?"
- **Spend time with fun, playful people.** These are people who laugh easily—both at themselves and at life's absurdities—and who routinely find the humor in everyday events. Their playful point of view and laughter are contagious.
- **Surround yourself with reminders to lighten up.** Keep a toy on your desk or in your car. Put up a funny poster in your office. Choose a computer screensaver that makes you laugh. Frame photos of you and your family or friends having fun.
- **Pay attention to children and emulate them.** They are the experts on playing, taking life lightly, and laughing.

### **Improving memory tip 3: Keep stress in check**

Stress is one of the brain's worst enemies. Over time, if left unchecked, chronic stress destroys brain cells and damages the hippocampus, the region of the brain involved in the formation of new memories and the retrieval of old ones.

### **The stress-busting, brain-boosting benefits of meditation**

The scientific evidence for the mental health benefits of meditation continues to pile up. Studies show that meditation helps improve many different types of conditions, including depression, anxiety, chronic pain, diabetes, and high blood pressure. Meditation also can improve focus, concentration, creativity, and learning and reasoning skills. Meditation works its "magic" by changing the actual brain. Brain images show that regular meditators have more activity in the left prefrontal cortex, an area of the brain associated with feelings of joy and equanimity. Meditation also increases the thickness of the cerebral cortex and encourages more connections between brain cells—all of which increases mental sharpness and memory ability.

### **Depression and anxiety can also affect memory**

In addition to stress, depression, anxiety, and chronic worrying can also take a heavy toll on the brain. In fact, some of the symptoms of depression and anxiety include difficulty concentrating, making decisions, and remembering things. If you are mentally sluggish because of depression or anxiety, dealing with the problem will make a big difference in your cognitive abilities, including memory.

### **Improving memory tip 4: Eat a brain-boosting diet**

Just as the body needs fuel, so does the brain. You probably already know that a diet based on fruits, vegetables, whole grains, “healthy” fats (such as olive oil, nuts, fish) and lean protein will provide lots of health benefits, but such a diet can also improve memory. But for brain health, it’s not just what you eat—it’s also what you don’t eat. The following nutritional tips will help boost your brainpower and reduce your risk of dementia:

- **Get your omega-3s.** More and more evidence indicates that omega-3 fatty acids are particularly beneficial for brain health. Fish is a particularly rich source of omega-3, especially cold water “fatty fish” such as salmon, tuna, halibut, trout, mackerel, sardines, and herring. In addition to boosting brainpower, eating fish may also lower your risk of developing Alzheimer’s disease. **If you’re not a fan of seafood, consider non-fish sources of omega-3s such as** walnuts, ground flaxseed, flaxseed oil, winter squash, kidney and pinto beans, spinach, broccoli, pumpkin seeds, and soybeans.
- **Limit calories and saturated fat.** Research shows that diets high in saturated fat (from sources such as red meat, whole milk, butter, cheese, sour cream, and ice cream) increase your risk of dementia and impair concentration and memory. Eating too many calories in later life can also increase your risk of cognitive impairment. Talk to your doctor or dietician about developing a healthy eating plan.
- **Eat more fruit and vegetables.** Produce is packed with antioxidants, substances that protect your brain cells from damage. Colorful fruits and vegetables are particularly good antioxidant “superfood” sources. Try leafy green vegetables such as spinach, broccoli, romaine lettuce, Swiss chard, and arugula, and fruit such as bananas, apricots, mangoes, cantaloupe, and watermelon.
- **Drink green tea.** Green tea contains polyphenols, powerful antioxidants that protect against free radicals that can damage brain cells. Among many other benefits, regular consumption of green tea may enhance memory and mental alertness and slow brain aging.
- **Drink wine (or grape juice) in moderation.** Keeping your alcohol consumption in check is key, since alcohol kills brain cells. But in moderation (around 1 glass a day for women; 2 for men), alcohol may actually improve memory and cognition. Red wine appears to be the best option, as it is rich in resveratrol, a flavonoid that boosts blood flow in the brain and reduces the risk of Alzheimer’s disease. Other resveratrol-packed options include grape juice, cranberry juice, fresh grapes and berries, and peanuts.

### **For mental energy, choose complex carbohydrates**

Just as a racecar needs gas, your brain needs fuel to perform at its best. When you need to be at the top of your mental game, carbohydrates can keep you going. But the type of carbs you choose makes all the difference. Carbohydrates fuel your brain, but simple carbs (sugar, white bread, refined grains) give a quick boost followed by an equally rapid crash. There is also evidence to suggest that diets high in simple carbs can greatly increase the risk for cognitive impairment in older adults. For healthy energy that lasts, choose complex carbohydrates such as whole-wheat bread, brown rice, oatmeal, high-fiber cereal, lentils, and whole beans. Avoid processed foods and limit starches (potato, pasta, rice) to no more than one quarter of your plate.

### **Improving memory tip 5: Give your brain a workout**

By the time you’ve reached adulthood, your brain has developed millions of neural pathways that help you process information quickly, solve familiar problems, and execute familiar tasks with a minimum of mental effort. But if you always stick to these well-worn paths, you aren’t giving your brain the stimulation it needs to keep growing and developing. You have to shake things up from time to time! Try taking a new route home from work or the grocery store, visiting new places at the weekend, or reading different kinds of books

Memory, like muscular strength, requires you to “use it or lose it.” The more you work out your brain, the better you’ll be able to process and remember information. The best brain exercising activities break your routine and challenge you to use and develop new brain pathways. Activities that require using your hands are a great way to exercise your brain. Playing a musical instrument, juggling, enjoying a game of ping pong (table tennis),

making pottery, knitting, or needlework are activities that exercise the brain by challenging hand-eye coordination, spatial-temporal reasoning, and creativity.

The brain exercising activity you choose can be virtually anything, so long as it meets the following three criteria:

1. **It's new.** No matter how intellectually demanding the activity, if it's something you're already good at, it's not a good brain exercise. The activity needs to be something that's unfamiliar and out of your comfort zone.
2. **It's challenging.** Anything that takes some mental effort and expands your knowledge will work. Examples include learning a new language, instrument, or sport, or tackling a challenging crossword or Sudoku puzzle.
3. **It's fun.** Physical and emotional enjoyment is important in the brain's learning process. The more interested and engaged you are in the activity, the more likely you'll be to continue doing it and the greater the benefits you'll experience. The activity should be challenging, yes, it should also be something that is fun and enjoyable to you. Make an activity more pleasurable by appealing to your senses—playing music while you do it, or rewarding yourself afterwards with a favorite treat, for example.

### Use mnemonic devices to make memorization easier

Mnemonics (the initial “m” is silent) are clues of any kind that help us remember something, usually by helping us associate the information we want to remember with a visual image, a sentence, or a word.

#### Mnemonic device

#### Example

**Visual image** – Associate a visual image with a word or name to help you remember them better. Positive, pleasant images that are vivid, colorful, and three-dimensional will be easier to remember.

To remember the name Rosa Parks and what she's known for, picture a woman sitting on a park bench surrounded by roses, waiting as her bus pulls up.

**Acrostic (or sentence)** - Make up a sentence in which the first letter of each word is part of or represents the initial of what you want to remember.

The sentence “Every good boy does fine” to memorize the lines of the treble clef, representing the notes E, G, B, D, and F.

**Acronym** – An acronym is a word that is made up by taking the first letters of all the key words or ideas you need to remember and creating a new word out of them.

The word “HOMES” to remember the names of the Great Lakes: Huron, Ontario, Michigan, Erie, and Superior.

**Rhymes and alliteration** - Rhymes, alliteration (a repeating sound or syllable), and even jokes are a memorable way to remember more mundane facts and figures.

The rhyme “Thirty days hath September, April, June, and November” to remember the months of the year with only 30 days in them.

**Chunking** – Chunking breaks a long list of numbers or other types of information into smaller, more manageable chunks.

Remembering a 10-digit phone number by breaking it down into three sets of numbers: 555-867-5309 (as opposed to 5558675309).

**Method of loci** – Imagine placing the items you want to remember along a route you know well or in specific locations in a familiar room or building.

For a shopping list, imagine bananas in the entryway to your home, a puddle of milk in the middle of the sofa, eggs going up the stairs, and bread on your bed.

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### Tips for enhancing your ability to learn and remember

- **Pay attention.** You can't remember something if you never learned it, and you can't learn something—that is, encode it into your brain—if you don't pay enough attention to it. It takes about eight seconds of intense focus to process a piece of information into your memory. If you're easily distracted, pick a quiet place where you won't be interrupted.
- **Involve as many senses as possible.** Try to relate information to colors, textures, smells, and tastes. The physical act of rewriting information can help imprint it onto your brain. Even if you're a visual learner, read out loud what you want to remember. If you can recite it rhythmically, even better.
- **Relate information to what you already know.** Connect new data to information you already remember, whether it's new material that builds on previous knowledge, or something as simple as an address of someone who lives on a street where you already know someone.
- **For more complex material, focus on understanding basic ideas** rather than memorizing isolated details. Practice explaining the ideas to someone else in your own words.
- **Rehearse information you've already learned.** Review what you've learned the same day you learn it, and at intervals thereafter. This "spaced rehearsal" is more effective than cramming, especially for retaining what you've learned.

