



## Tips and Exercises to Improve Our Memory

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### 1. Tips and Exercises to Sharpen Our Mind and Boost Brainpower

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

### 2. Harnessing the power of our brain

They say that we can't teach an old dog new trick, 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, our 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. We can harness the natural power of neuroplasticity to increase our cognitive abilities, enhance our ability to learn new information, and improve our memory.

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

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

##### 2.1.1 When we exercise the body, we exercise the brain?

Treating our body well can enhance our ability to process and recall information. Physical exercise increases oxygen to our 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.

##### 2.1.2 Improve our memory by sleeping on it

When we're sleep deprived, our brain can't operate at full capacity. Creativity, problem-solving abilities, and critical thinking skills are compromised. Whether we'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.

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

When we think of ways to improve memory, do we think of "serious" activities such as wrestling with the New York Times crossword puzzle or mastering chess strategy, or do more light-hearted pastimes hanging out with friends or enjoying a funny movie-come to mind? If we'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.

##### 2.2.1 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, and 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.

### **2.2.2 Laughter is good for our brain**

We'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 our life? Start with these basics:

- Laugh at our self.
- When we hear laughter, move toward it.
- Spend time with fun, playful people.
- Surround our self with reminders to lighten up.
- Pay attention to children and emulate them.

### **2.3 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.

#### **2.3.1 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.

#### **2.3.2 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 we are mentally sluggish because of depression or anxiety, dealing with the problem will make a big difference in our cognitive abilities, including memory.

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

Just as the body needs fuel, so does the brain. We 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 we eat-it's also what we don't eat. The following nutritional tips will help boost our brainpower and reduce our risk of dementia:

- Get our omega-3s.
- Limit calories and saturated fat.
- Eat more fruit and vegetables.
- Drink green tea.
- Drink wine (or grape juice) in moderation.

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

Just as a race car needs gas, our brain needs fuel to perform at its best. When we need to be at the top of our mental game, carbohydrates can keep we going. But the type of carbs we choose makes all the difference. Carbohydrates fuel our 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 our plate.

#### ***2.4.2 Improving memory tip 5: Give our brain a workout***

By the time we've reached adulthood, our brain has developed millions of neural pathways that help we process information quickly, solve familiar problems, and execute familiar tasks with a minimum of mental effort. But if we always stick to these well-worn paths, we aren't giving our brain the stimulation it needs to keep growing and developing. We 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 us to "use it or lose it." The more we work out our brain, the better we'll be able to process and remember information. The best brain exercising activities break our routine and challenge us to use and develop new brain pathways. Activities that require using our hands are a great way to exercise our 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 we 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 we're already good at, it's not a good brain exercise. The activity needs to be something that's unfamiliar and out of our comfort zone.
2. **It's challenging.** Anything that takes some mental effort and expands our 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 we are in the activity, the more likely we'll be to continue doing it and the greater the benefits we'll experience. The activity should be challenging, yes, it should also be something that is fun and enjoyable to us. Make an activity more pleasurable by appealing to our senses playing music while we do it, or rewarding our self afterwards with a favourite treats.

#### ***2.4.3 Tips for enhancing our ability to learn and remember***

- **Pay attention.** We can't remember something if we never learned it, and we can't learn something that is, encode it into our brain if we don't pay enough attention to it. It takes

about eight seconds of intense focus to process a piece of information into our memory. If we're easily distracted, pick a quiet place where we won't be interrupted.

- **Involve as many senses as possible.** Try to relate information to colours, textures, smells, and tastes. The physical act of rewriting information can help imprint it onto our brain. Even if we're a visual learner, read out loud what we want to remember. If we can recite it rhythmically, even better.
- **Relate information to what we already know.** Connect new data to information we 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 we 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 our own words.
- **Rehearse information we've already learned.** Review what we've learned the same day we learn it, and at intervals thereafter. This "spaced rehearsal" is more effective than cramming, especially for retaining what we've learned.

### References

1. Kirschbaum C, Prussner JC, Stone AA, Federenko I, Gaab J. (1995). Persistent high cortisol responses to repeated psychological stress in a subpopulation of healthy men. *Psychosomat. Med.* 57:468–74.
2. Morrison, AB., & Chein, JM. (2010). Does working memory training work? the promise and challenges of enhancing cognition by training working memory. Psychonomic Society, Inc.
3. Shiffrin, R.M. (1976). Capacity limitations in information processing, attention, and memory. In W.K. Estes (Ed.), *Handbook of learning and cognitive processes* (Vol. 4). Hillsdale, NJ: Erlbaum.
4. Slagter, H.A., Lutz, A., Greischar, L.L., Francis, A.D., Nieuwenhuis, S., Davis, J.M., Davidson, R.J. (2007). Mental Training Affects Distribution of Limited Brain Resources. *PLoS Biol* Vol 5(6).
5. Tang, Y.Y., Ma, Y. Wang, Y., Fan, Y. Et al. (2007). Short-term meditation training improves attention and self-regulation. *PNAS.* vol. 104 no. 43 17152-17156.