

## How a Harvard Brain Specialist Keeps Her Own Brain Healthy

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### Simple Steps Anyone Can Take

Scientists used to believe that memory and other mental abilities inevitably declined with age. Not anymore. We now know that the brain has the ability to form new neurons and create new neural pathways throughout life. This means that your ability to remember and learn actually can get better as you age.

It doesn't take hard work—or complicated mental “workouts”—to improve mental agility. *Bottom Line/Personal* asked Marie Pasinski, MD, a memory specialist at Harvard Medical School, what she does to keep her own brain healthy...

### HANG OUT WITH FRIENDS

Close relationships are good for the brain. We have found that people who have supportive friends (or spouses) and rich social networks have better cognitive function and lower rates of dementia than those who spend more time alone.

When I take a break during my workday to go for a walk, I like to find someone to go with me. Exercising with friends is ideal because you can catch up on one another's lives while you get in shape.

It's not entirely clear why friendships are so important. One reason is purely mental—the brain is stimulated when you share ideas with other people. Mental stimulation increases the number of neurons and the connections among neurons. Social engagement lowers levels of stress hormones, which appear to be toxic to the neurons in the *hippocampus*—the brain's memory center. It also appears to lower blood pressure and reduce the risk for stroke.

Spend as much time as you can with people you care about—getting together with one close friend can be just as beneficial as hanging out with a group. Meeting new people is beneficial because it adds an extra jolt of stimulation. You can broaden your social network by volunteering or joining community groups.

### DON'T LIVE ON AUTOPILOT

Routine is seductive. People like going to the same restaurants or taking the same route to work. The problem with routine is that it literally creates mental ruts—the brain uses only preexisting pathways and neural connections to complete familiar tasks. It stops growing and improving.

By embracing new experiences, you stimulate your brain to create neurons and forge additional neural pathways. This happens every time you extend your scope of experience and think in new ways. The more you challenge your brain—even when the “challenge” is as simple as looking at unfamiliar scenery—the more its functions improve.

For me, writing is a new experience. I can’t spell to save my life. My worst course in college was English 101. When a friend suggested that I write a book about memory, I immediately dismissed the idea. Then, a few weeks later, I learned that Harvard was offering a course on publishing. I decided to take it. Now I’ve completed two books.

For me, shifting attention from medicine to writing was a radical change. But any change, even a small one, can help boost memory and thinking. If you take a new route to work, you will see different buildings. You will have to think about where you’re going. This alone is enough to stimulate the brain’s circuitry.

## **WORK BOTH SIDES OF THE BRAIN**

A lot of my patients love to do crossword or other puzzles. They enjoy the challenge, and they’ve heard that mental activities improve memory. They’re right—but only up to a point.

The improvements that you get from mental challenges quickly level off as you gain expertise. *Better:* In addition to taking on new challenges, do things that work the underused side of your brain. If you’re an accountant who crunches numbers all day, you’re drawing heavily on the logical left side of the brain. Take up a hobby that works the right side, the imaginative side, such as painting or making pottery.

For me, playing the piano is a creative and welcome distraction from my work in medicine. I tried to learn to play when I was young, but my teacher was awful! I took it up again later in life. This time, I got to choose my own teacher, who has since become a close friend.

## **HAVE FUN**

People who enjoy what they’re doing get a mental boost. “Forcing” yourself to do things that aren’t fun won’t be anywhere near as good for your brain as activities that you genuinely enjoy. Also, enjoyment triggers the release of *dopamine*, a neurotransmitter that enhances learning and retention of new material.

I often ask patients to describe some of the things that they would like to do but have never done. Some would like to learn a new language. Others want to take up a new hobby, such as bird-watching or playing a sport. Ideally, whatever you choose will be both unfamiliar and fun.

I’ve tried all sorts of things in recent years, from joining Facebook and taking improv

classes to competing in triathlons and gardening.

## MOVE!

I do something physical every day. I enjoy biking, running, swimming, tennis and skiing. I also take jazz-dance classes.

Exercise triggers the release of *brain-derived neurotrophic factor*, a growth factor that promotes the formation of new *synapses* in the brain—the connections among brain cells that are critical for memory and other cognitive functions.

Exercise also increases the size of the brain. In one study, nonexercisers were given MRI scans to measure their brain volume. Then they were instructed to walk for 60 minutes, three days a week. After six months, they were given another MRI. The scans showed that they had an increase in the size of the prefrontal cortex, the part of the brain that is involved in reasoning, problem-solving and other “executive” functions.

Exercise also increases the size of the hippocampus, the area of the brain that is closely involved with memory. It improves circulation and helps prevent hypertension and other conditions that increase the risk for dementia.

Even if you don’t enjoy “formal” exercise, you can get similar benefits just by moving more. I spend a lot of time at my computer, but I take a break every hour or so just to move around.

## EAT BRAIN FOOD

A Mediterranean-style diet, with relatively little red meat and lots of fish, vegetables and whole grains, is the best diet for brain health. People who follow this diet have less atherosclerosis, hypertension and diabetes, conditions that cause inflammation and other brain changes that impair thinking and memory. Fish and olive oil, two staples of the Mediterranean diet, are particularly good for the brain...

**Fish and omega-3s.** About two-thirds of the brain consists of fat. When you eat salmon, sardines or other cold-water fish, the omega-3s from the fish are incorporated into brain tissue. A study published in *American Journal of Clinical Nutrition*, which looked at more than 2,000 men and women ages 70 to 74, found that those who ate, on average, one-third of an ounce or more of fish daily did better on cognitive tests than those who ate less.

I try to eat fish at least a few days a week. If you’re not fond of fish, you can get some of the same benefits from eggs or milk that is fortified with omega-3s. Other less potent sources of omega-3s include walnuts, pumpkin seeds and soybeans. You also can take fish-oil supplements. The usual dose is 1,000 milligrams (mg) to 2,000 mg daily. Because the supplements can have a blood-thinning effect and/or interact with some medications, check with your doctor before taking them.

**Olive oil.** It's a healthy fat that reduces inflammation, improves cholesterol and helps reduce the risk for stroke. I use it for cooking almost every day. People who use olive oil regularly tend to have lower rates of dementia and better cognitive function.

**Source:** Marie Pasinski, MD, a memory specialist and neurologist who is on the faculty of Harvard Medical School and a staff neurologist at Massachusetts General Hospital, both in Boston. She is author, with Liz Neporent, of *Chicken Soup for the Soul: Boost Your Brain Power!* (Chicken Soup for the Soul).