

Feeling forgetful?

Keep your memory sharp with strategies based on recent breakthroughs in brain research



Age-Proof Your Brain

You space out on your best friend's birthday for the first time. Or you find yourself standing in the bathroom when you meant to head into the kitchen.

So-called "senior moments" can be unsettling and frustrating, but we tend to accept them as a non-negotiable result of aging. In fact, researchers now believe that we don't have to just sit back and let our gray matter fizzle over time.

New imaging technologies are revealing that the brain is far more elastic than we believed. As with the

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muscles in your body, it is possible to assert some control over the health of your brain to keep it in the best shape possible.

“Twenty-five years ago, when I was in medical school, we were taught that the adult brain couldn’t grow any new nerve cells,” says Catherine Madison, M.D., a neurologist and director of the Brain Health Center at Sutter Health California Pacific Medical Center in San Francisco. “Now, research has debunked that adage that says old dogs can’t learn new tricks—they can.”

The field of neuroscience—the study of how the brain functions—is exploding and will become increasingly significant as Americans continue to live longer than those in previous generations. While scientists haven’t pinpointed exactly what keeps the mind supple over time, a few common threads are emerging that may help you age-proof your brain.



Brain Trainers

Got time to kill? Forgo Facebook and work your mental muscles with one of these apps designed to exercise your mind:

▶ **Brain Challenge:** Forty games that challenge your visual acuity, memory, logic, math skills and focus. (\$5, itunes.apple.com)

▶ **iCue Memory:** Endorsed by the USA Memory Championship, this app features three games that teach

you how to remember numbers and allows you to compete for high scores with people all over the world. (\$3, itunes.apple.com)

▶ **My Personal Memory Trainer:** Targets spatial and working memory along

with focus and concentration skills. (Free, play [google.com](https://www.google.com))

▶ **Clockwork Brain:** Guided by a character called Sprocket the Robot, tests your cognitive abilities in logic, language and memory. (Free, itunes.apple.com)



BE HEART SMART

Your heart pumps about 20 percent of your body's oxygen-rich blood to the vast network of blood vessels in your brain, so it should come as no surprise that what's good for the heart is also good for the brain.

"Eating a healthy diet, getting regular exercise, not smoking and keeping blood pressure and cholesterol under control all benefit blood flow to the brain," explains Charles Hall, Ph.D., a professor of biostatistics, epidemiology and population

health at Albert Einstein College of Medicine in New York City.

High blood pressure, in particular, can contribute to age-related cognitive decline; atherosclerosis, the process in which arteries slowly clog and harden, has an impact on brain health as well. Aerobic and resistance exercises may counter these effects because they are linked to better blood flow, as well as improved nerve cell function, and have been repeatedly associated with enhancing one's mood and mental well-being.

One recent study looked at 29 older adults who were randomly assigned to participate in aerobic exercises or toning and stretching exercises three times a week for six months. Participants underwent a series of mentally-challenging tasks as well as brain imaging. Those who engaged in the aerobic exercise showed greater cardiovascular fitness as well as high levels of activity in the regions of



the brain—the middle frontal gyrus in the main frontal lobe— associated with attention control.

Another study of people age 50 to 85, published in the journal *Neurology*, indicated that regular exercise protects the brain’s “white matter,” which transmits information between cells in the brain and the spinal cord.

PASS THE OLIVE OIL

Much is still left to learn about nutrition and the brain, but evidence continues to point to the pros of eating a heavily plant-based diet like the Mediterranean diet, says Emily Rogaliski, Ph.D., a cognitive neurologist at the Cognitive Neurology and Alzheimer’s Disease Center at Northwestern University Feinberg School of Medicine in Chicago. “There’s no magic

potion that guarantees you won’t develop dementia or live to 102 and run marathons,” says Dr. Rogaliski, who studies “Super Agers,” very elderly individuals who are as sharp as they were in midlife. “But a healthy, balanced diet can do a lot.”

The Mediterranean diet emphasizes fruits, vegetables, beans, legumes and seafood. Low in sugar, meat and processed foods, the diet is rich in everything the brain needs: antioxidants, omega-3 fatty acids and healthy fats. Monounsaturated fatty acids like the ones found in olive oil may help buffer against brain erosion, according to one study. Research has also shown that green leafy vegetables may protect against cognitive decline in older women.

PLAY MIND GAMES

An active brain, one engaged in new challenges, is more likely to have what researchers call “neuroplasticity,” meaning brain cells that regenerate and adapt more easily over time.

“We’re finding that puzzles like crosswords or Sudoku may make your brain more resistant to disease,” says Dr. Hall. “Puzzles work areas responsible for memory in the hippocampus and for language in the left temporal lobe. They also encourage different parts of the brain to work together.”

So, by all means, push your brain, but pick activities you enjoy rather than those that cause stress. “There’s no point in being frustrated,” adds Dr. Hall. “The idea is for these activities to feel rewarding.”