

Repair Your Aging Brain in Just 15 Minutes a Day...

By Al Sears, MD

If your doctor said mental decline is simply a part of aging, I'm here to say *think again*. While it may not be possible to completely prevent memory lapses, you can hold on to a quick and sharp mind as you get older.

This report will help you preserve and promote your brainpower. Many of these simple exercises take just minutes a day. They're easy to understand and easy to do.

I'll show you:

1. Tools you can use to *reverse* cognitive decline
2. How to beat the brain-destroying effects of cortisol
3. The best way to protect yourself from dreaded Alzheimer's Disease

Build New Networks and Ward Off Age-Related Decline

Scientists are finding exciting new evidence of the brain's tremendous capacity to repair itself. No matter how old you are, the brain can modify its structure, staving off age related decline. When one network of neurons dies, the brain can sprout brand-new connections and create another network.

In one study, doctors compared the memories of people in their 20s with those in their 70s. Each group looked at 16 words and tried to remember them. The researchers found that with practice the older group performed *just as well* as the younger people.¹

But here's the most surprising finding: as they performed this mental task, brain scans showed the younger people used their frontal lobes (the normal area for memory), but the older group used a different part of the brain – the area associated with vision. So how can some elders remain sharp like this while others slip into dementia? The answer has little to do with genes or luck...

Your Brain is Like a Muscle... Use It or Lose It

Your brain is a dynamic, adaptable system. Its neurons respond to environmental factors and mental stimulation. By stimulating your mind, you preserve your memory. What's more, you can even restore the clarity you had in your youth!

Neuroscientists have two main terms for the brain's ability to adapt:

- **Neuroplasticity:** Neuroplasticity describes the brain's ability to keep its cells plastic, giving it the capacity to rearranging old connections and laying down new ones. Flexible neurons allow us to master new skills, memorize, and adjust to unfamiliar environments.²
- **Neurogenesis:** Neurogenesis describes the brain's ability to restore itself by generating new neurons. Inside the hippocampus, the central location for memory function in adults, is the dentate gyrus. The dentate gyrus is the only region of the hippocampus that supports neurogenesis.³

Researchers have been making some exciting advances in the study of both neuroplasticity and neurogenesis. And one of the most promising studies of how to improve cognitive performance is still going strong. It's The Seattle Longitudinal Study of Adult Intelligence. Since 1956, Dr. K. Warner Schaie has followed more than 5,000 people examining their cognitive abilities every seven years. Here are his remarkable findings:

- Two-thirds of the people following a "mental education program" showed significant improvement often returning to pre-decline cognitive performance levels.
- In addition, they maintained these benefits well beyond seven years.⁴

Other new research shows that the more you use your brain the lower your risk of Alzheimer's disease. Dr. Stern, a clinical psychologist at Columbia University discovered that people with less than an eighth-grade education had twice the risk of developing Alzheimer's as those with formal education. And if those with lower educational levels worked at mentally un-stimulating jobs, the risk was three times higher. The more connections, or synapses, you develop between brain cells from the use of your brain, the more resistant you are to the disease.⁵

Whip Your Mind Into Shape With 4 Simple Brain Exercises

How *do* you develop connections and regenerate your brain? Your two main tools are mental and physical exercise.

By keeping your mind challenged through your own "mental education program," you can create and strengthen neural networks.

And by keeping your body physically active you can increase blood flow to your brain, therefore promoting the creation of new neurons.

Here are my top suggestions for brain exercises:

- **Keep it interesting.** Research shows that cognitively compelling tasks are associated with a reduced risk of Alzheimer's. Crossword puzzles are my favorite, but anything that represents an exciting mental challenge will do such as bridge, Scrabble, and chess.

Sudoku is another great brain twister to try. Michael Mariske, co-author of a recent study on the long-term effects of cognitive training on everyday functional outcomes in older adults, thinks it's reasonable to assume that games like Sudoku could have the same benefits as rhyme and acronym challenges his subjects encountered.⁶

- **Make it communal.** Your mind benefits from an active social life that includes games, lecture series, and stimulating conversation. Researchers at the Harvard School of Public Health discovered evidence that the memories of elderly people with active social lives may decline at a slower rate.

Gathering data from memory assessments conducted every two years from 1998 to 2004, researchers found that individuals who were most integrated in their community had the slowest rate of memory decline. Marital status, volunteer activities, and contact with parents, children and neighbors were the factors in assessment of social integration. What's more, the findings were independent of factors such as age, gender, and race.⁷

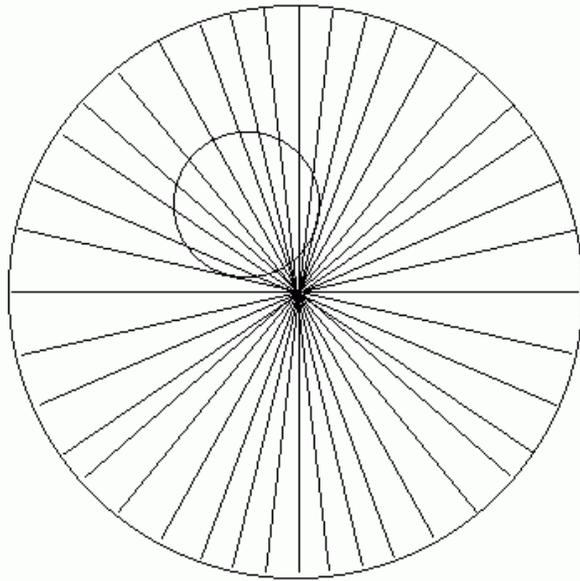
Remember, being social doesn't have to mean being with your peers. If you have grandkids, play their favorite board games with them. Teach them how to win at Monopoly, or show them how to play card games.

- **Take advantage of new technology.** Imagine a memory tool you can put in your pocket and take wherever you go. Waiting in line for a movie, stuck at the airport, commuting by train to work? Take out a device such as the Nintendo DS and start working out that noggin!

The Nintendo DS is a handheld device a little bigger than a cell phone. Load the Brain Age application into it, and you've got a treasure load of exercises to challenge your mind. Brain Age, inspired by the work of Japanese neuroscientist Ryuta Kawashima, M.D., comes loaded with math, language, music, and visual games that are as fun as they are challenging.

You can write your answers with the handy stylus for some games and use its voice recognition software for others. When you first play, it will give you a series of tests in order to determine your DS brain age, and then it will track your progression so you can keep track of how well you're doing.⁸

- **Tease your brain.** Here's one for a start. Is the inner shape in the below picture a circle?



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You can find 49 more such brain teasers at <http://www.sharpbrains.com/teasers/>

Keep Your Mind Fit with Physical Exercise

Don't forget that brain exercises are only half of the story. You also need steady physical exercise. You can even combine the two by listening to language tapes as you take walks or do calisthenics.

A study at the Group Health Cooperative in Seattle, Washington that tracked older adults for 6 years found that regular exercise (defined for the study as 3 or more times per week) was associated with about one-third the risk of developing dementia as less frequent exercise. What's more, those who experienced the greatest risk reduction were the ones who were least physically fit at the start of the study.¹⁰

Here are some good ideas for boosting your memory power and mental agility with physical exercise.

- **Get Your Heart Pumping.** Research has linked healthy brains to healthy hearts. Walking, running, swimming and biking are all ways of getting your heart rate up.

“Some people age more successfully than others, and our findings suggest that everyday behaviors and preventive measures – many involved in promoting heart health -- may be able to make a difference in the health of our brains,” said Dr. Ian Cook, lead author and associate professor of psychiatry at the UCLA Neuropsychiatric Institute. “If we don't take care of our physical health, our brains and minds pay a price as well.”¹²

- **Keep it short, simple and regular.** You don't need an elaborate exercise regimen in order to improve brain health. In the Nurses' Health Study, nearly 122,000 nurses are asked questions every 2 years about their health, diet, illnesses, and lifestyles. Researchers found that walking the equivalent of at least 1 1/2 hours per week at a 21-30 minute-per-mile pace was associated with improved cognitive performance.
- **Strength train.** Some research indicates that lifting weights or other forms of strength training such as push-ups or deep knee bends may stimulate a hormone that protects your brain.¹¹

Lower Your Stress Hormone for Deeper Relaxation

When it comes to your brain, relaxation is as vital for maintaining memory and cognitive abilities as mental exercises. You see, if you're wound up too tight all the time, you're actually killing brain cells.

Stress is a leading cause of mental deterioration as you age. Here's why: when you're feeling stressed, your body produces the hormone cortisol. In moderate amounts, cortisol is not that big of a deal. But in larger amounts, it becomes toxic to your brain cells.

Over time, too much stress-induced cortisol ruins your brain's "biochemical integrity" causing the mental haziness, forgetfulness, and confusion that often comes with aging.

Cortisol threatens your mental health more as you age. Almost all hormone levels fall as you age, but cortisol is one of the very few exceptions. Cortisol actually *rises* as you grow older.

To preserve a youthful mind, you must actively work to lower your cortisol. You can do this simply by reducing your stress level. Set aside a block of time every day, even if it's only a couple of minutes, for practicing and enjoying relaxation. Here are some of my favorite stress-reducing strategies:

- Treat yourself to a massage - frequently.
- Do some of your favorite things everyday.
- Focus on your breathing for the sole purpose of relaxation.
- Stop holding it in: Don't isolate yourself with your worries. Let it out and talk it over.
- Meditate: Meditation is proven to reduce cortisol.

¹ "The Latest Research on How the Brain Compensates for Age" Neurobiology of Aging Information American Foundation for Aging Research:
http://www.healthandage.com/html/min/afar/content/other6_4.htm, August 2004.

² "What is neuroplasticity, anyway?" Memory Zine (<http://www.memoryzine.com/neuroplasticity.htm>), accessed 8/1/2008.

- ³ “An in vivo correlate of exercise-induced neurogenesis in the adult dentate gyrus.” Ana C. Pereira et al, <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1838482>, 3/20/2007.
- ⁴ Schaie, K. Warner 1998. The Seattle Longitudinal Studies of adult intelligence. In M. Powell Lawton & Timothy A. Salthouse (eds) Essential papers on the psychology of aging. NY, NY Univ Pr. Pp263-271.
- ⁵ Kotulak, Ronald. *Inside the Brain: Revolutionary Discoveries of How the Mind Works* (Kansas City, Mo.:Andrews McMeel Publishing, 1997).
- ⁶ “Sudoku anyone? Limber brain keeps seniors sharp,” Revolution Health (<http://www.revolutionhealth.com/conditions/brainnerves/alzheimers/prevention/sudoku>)2/25/2007.
- ⁷ “Active Social Life May Delay Memory Loss Among U.S. Elderly Population,” Harvard School of Public Health (<http://www.hsph.harvard.edu/news/press-releases/2008-releases/active-social-life-delay-memory-loss-us-elderly.html>), May 29, 2008.
- ⁸ “Brain Age,” Brain Age (<http://www.brainage.com/>), accessed 8/4/2008.
- ⁹ <http://www.sharpbrains.com/blog/2006/10/19/visual-perception-brain-teaser/>, accessed 8/10/2008.
- ¹⁰ “Lessons Learned from Couch Mice, Marathon Mice, and Men and Women Who Like to Walk,” National Institute on Ageing (http://www.nia.nih.gov/Alzheimers/Publications/ADProgress2005_2006/Part2/lessons.htm.htm) 7/30/2007
- ¹¹ “Memory improvement: Exercise keeps your mind sharp,” Mayo Clinic (<http://www.mayoclinic.com/health/memory-improvement/HA00085>), 4/30/2007.
- ¹² Healthy Heart Habits Promote Healthier Brains. *ScienceDaily* (Feb. 23, 2004) <http://www.sciencedaily.com/releases/2004/02/040223075557.htm>