

Smart Thinking

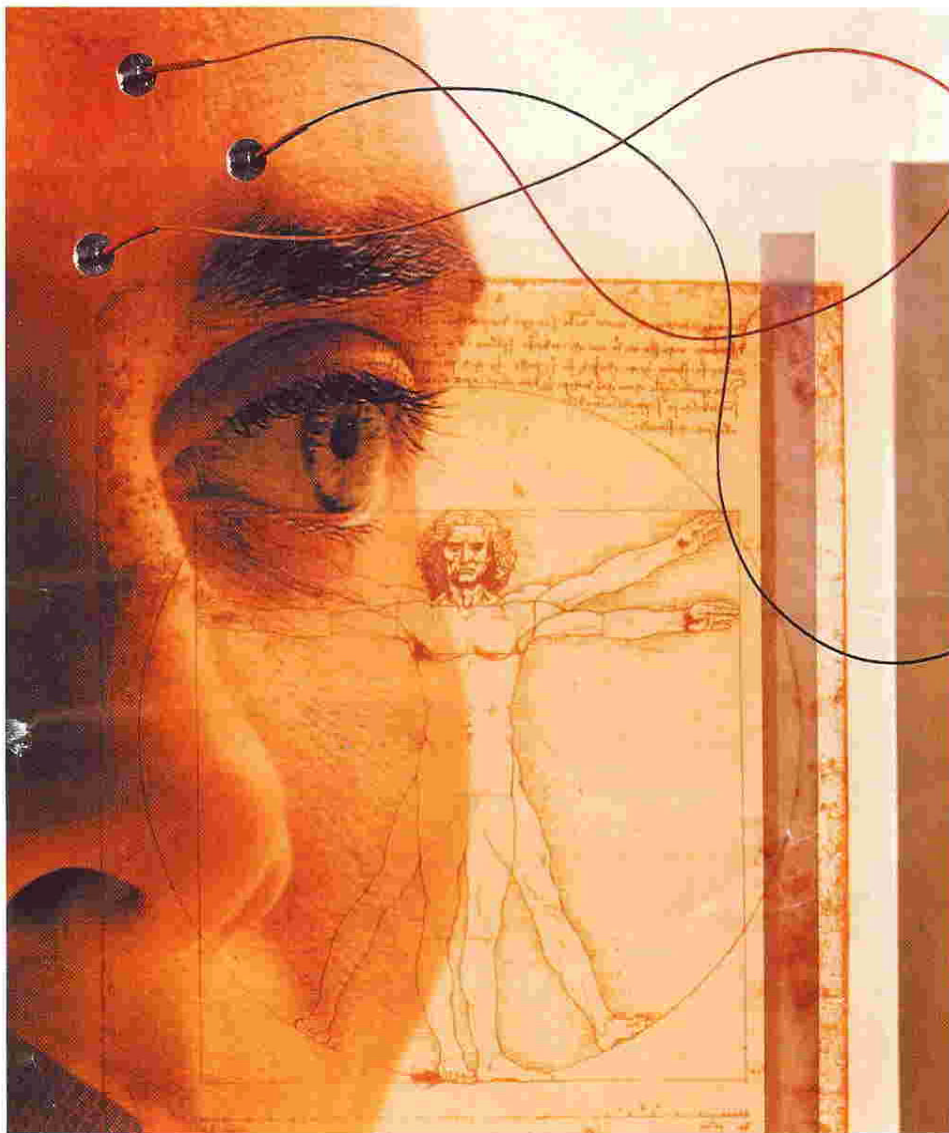
Your mind is a terrible thing to waste. Keep it sharp with these brain-training tips and techniques. BY HEATHER MILLAR

Not long ago, we all could write off “senior moments” and “brain freezes” as unavoidable ills, like death and taxes. It was thought that we were born with all the brain cells we would ever have and that they just slowly died off. Brain pathways, the wisdom went, were pretty much set by early adulthood. “Benign Forgetfulness of Old Age” remained a formal medical diagnosis.

Forget all that.

Advances in brain imaging, genetics, and neuroscience now show that we continue to create new brain cells throughout life, even though researchers aren't yet sure whether these new cells are just “spares” or get integrated into the brain. And the neurons in our brains continue to change, develop, and forge new connections — even as we age. Physical changes occur in our brains every time we learn something new. Scientists call this evolving adaptability “neuroplasticity.” Some think that dementia, senility, and Alzheimer's may occur when the brain loses this ability to “grow.”

“We used to think the brain was an end organ, that there wasn't much you could do about it one way or the other,” explains Dr. Jeff Steinberg, a neurologist at Memorial Regional Hospital in Hollywood,



Florida. “Now we understand that the brain is dynamic, and that it can be helped along.”

“As we age, our brain systems become fuzzier over time, like a radio going out of tune,” explains Henry Mahncke, PhD, head of research for Posit Science Corporation, a San Francisco-based company that designs and markets research-based computer programs proven to sharpen cognition. “For instance, the things you hear are represented more fuzzily in your brain. Your memory system doesn't have as much to work with. As a result, you don't remember as well.”

Perhaps more disturbing, a study released in August 2002 estimated that if a cure for Alzheimer's disease is not found, as many as 16 million Americans may have it by 2050. If this trend contin-

ues, one out of every two baby boomers may develop Alzheimer's disease as they age into their golden years, that is, beyond age 85. Plus, neurologists say that our brain processing speed begins to slow as early as age 25.

Yet an American Society on Aging poll released last September showed that while nine out of 10 people thought that brain fitness could be improved, and that brain function should be checked regularly, few were

on memory. "The brain needs to be exercised just as the body does."

With that idea in mind, companies are coming up with myriad computer programs that purport to give your brain a workout, and implicitly, to make it stronger. An Israeli company has produced "IntelliGym," which is supposed to sharpen the decision-making skills of basketball players. Nintendo earlier this year

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doing anything about it. "Neurobics" classes in senior communities aside, only 3 percent of Americans older than age 42 consider brain health the most important issue for people their age, the poll found.

To generate more interest in cognitive fitness, the American Association of Retired Persons (AARP) has joined forces with The Dana Alliance for Brain Initiatives and NRTA, AARP's Educator Community, to promote brain-healthy habits with its "Staying Sharp" initiative. And the Alzheimer's Association has launched a similar effort called "Maintain Your Brain."

"The biggest misunderstanding is that growing old leads to deterioration of mental ability," says Tom Nelson, chief operating officer of the AARP.

Here are some of the things that doctors and neurologists say can make a difference in keeping your mind razor sharp:

- **Exercise your brain.** "You've got to use it or lose it," says James L. McGaugh, PhD, professor of neurobiology and behavior at the University of California, Irvine, who researches drug effects

released two brain-training games, "Brain Age" and its sequel "Big Brain Academy." Eons, a "boomers and seniors" media company backed by Monster.com founder Jeff Taylor, just released an online "Brain Builder" website challenging people 50 and older to do "a game a day." Posit Science, the San Francisco company, just released its "Brain Fitness Program 2.0." Training with the program one hour a day for eight weeks will improve processing speed and accuracy, making people cognitively younger by as many as 10 years, according to a study that appeared in the *Proceedings of the National Academy of Sciences* last summer.

But, do you really need a digital coach to keep your noggin in trim? If you like the idea of a treadmill for the mind, then go ahead. "But you don't need to spend a lot of money on expensive kits," says Dr. Elizabeth Landsverk, CEO of Elder Consult, a geriatric consulting practice in Burlingame, California, that specializes in cognitive issues. "What you do need are challenging, meaningful things to do."

If you like to do crossword puzzles or number games like sudoku, do those. If you'd rather learn a musical instrument, go buy a guitar or a keyboard. If you've always wanted to learn a language, enroll in a class. The key seems to be to continually upping the ante, challenging yourself to ever-higher levels of skill and achievement. Just doing crosswords you find easy isn't enough, doctors say. You have to try to think in new ways.

Activities that engage multiple senses — as dancing involves sight, hearing, and touch, for instance — also seem to be most healthy for the brain. Every time you challenge your brain, it rewires itself, forming new dendrites and synapses. That, in turn, prompts the brain to produce growth molecules. ▶



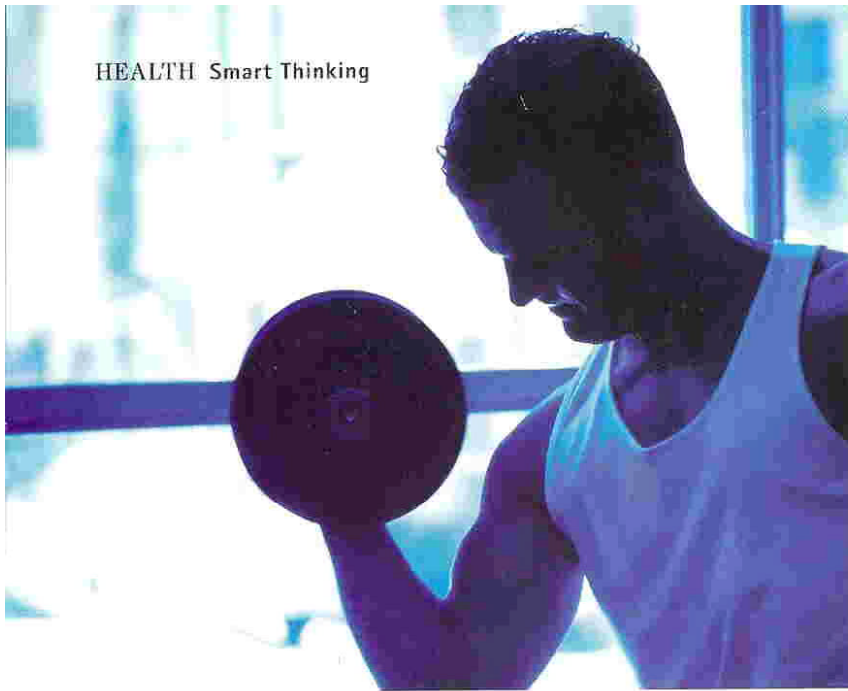
BRAIN HEALTH RESOURCES

AARP'S STAYING SHARP PROGRAM,
www.aarp.org/health/brain

General information about how the brain works, aging, and education events nationwide

ALZHEIMER'S ASSOCIATION "MAINTAIN YOUR BRAIN" PROGRAM,
www.alz.org/brainhealth

Educational materials and information on workshops nationwide



Since the ability to divide attention between competing things grows more difficult with age, focus on what you're doing rather than multitasking. As we grow older, it's more difficult to focus mentally, but when you do, you can learn well. Repeat things you want to remember, as repetition reinforces the strength of brain connections.

- **Reach out, stay social.** Older adults who kept working or stayed active after retirement did significantly better on IQ tests than those who didn't. Consider volunteering for a cause that you feel passionate about.

"You have to exercise spirit, mind, and body. You have to be excited about something every day," says Mark Victor Hansen, co-author of the wildly successfully "Chicken Soup" book series, and co-author with Art Linkletter of *How to Make the Rest of Your Life the Best of Your Life* (Linkletter is 94, by the way). "After age 40, you need to be taking on two 20-year-old friends every year."

Remember that socializing involves memory, logical function, and many other mental processes. An active social life seems to improve immunity and reduce inflammation, believed to have a role in Alzheimer's. A large study in the *New England Journal of Medicine* found that people who engaged in leisure activities like dancing were less likely to develop dementia.

- **Eat right.** Cut down on the junk food. Several recent studies have linked Type 2 diabetes and high blood sugar to an increased risk of dementia.

Meanwhile, all sorts of fruits and veggies have been touted as elixirs of cognitive youth: Blueberries contain antioxidants that seem to fight disease. Dark chocolate has polyphenols that may help lower blood pressure and promote vascular health. B vitamins and folic acid may be involved in brain development. While the evidence for all these claims may not be definitive, researchers say that generally eating a healthy, low-fat diet rich in

vegetables, whole grains, and fatty fish is food for thought. There's increasing evidence that a Mediterranean diet aids brain function.

Strong scientific evidence also supports the idea that Omega-3 oils found in fish like sardines, tuna, and salmon enhance brain development and function. This year, the British Education Department even considered a proposal to give Omega-3 supplements to all primary schoolchildren.

- **Keep your body as fit as your brain.** Physical exercise is closely linked with mental sharpness. In one American Academy of Neurology study, for every extra mile a woman walked per week, her risk of cognitive decline dropped by 13 percent. In a study of more than 1,700 seniors, those who exercised three or more times a week had the lowest risk of Alzheimer's, according to a January 2006 study in the *Annals of Internal Medicine*. Studies with mice have shown that physical exercise led to structural changes in the brain, prompting the growth of new neurons and the connections between them. Exercise also boosts blood flow to your brain, and it's good for your heart—possibly key to brain health.

It's striking how directly lifestyle changes can affect the brain. For instance, just two weeks on a program of nutritious food, daily walks, relaxation techniques, and mental exercises improved participants' ability to retrieve a word from their memory quickly, according to a study conducted by Dr. Gary Small, director of the UCLA Center on Aging and author of *The Longevity Bible: Keeping Your Mind Sharp and Your Body Young*. Increased mental activity throughout life, coupled with exercise and heart health, also maintains a healthy brain, according to a February 2006 study by the National Institutes of Health (NIH).

- **Manage stress.** Untreated depression and anxiety are the most common reasons people begin to fear they're losing their memory. "Stress erodes the brain," says Debbie Mandel, a stress-management consultant in Lawrence, New York, and author of *Turn On Your Inner Light: Fitness for Body, Mind and Soul*. "Researchers have found that one of the contributors to dementia is chronic stress."

- **Get at least eight hours of sleep each night.** A University of Pennsylvania study, published in a 2001 issue of the journal *Neuron*, found that sleep-deprived cats had less brain "plasticity" than those allowed to sleep normally.

"We are not yet sure what sleep does," says Dr. Steinberg of Memorial Regional Hospital. "But we know that it definitely helps brain function." 