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New mental exercises, games can keep aging minds fit

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Your biceps, delts and abs may be in shape, and your cardio rate may be that of a 35-year-old.

But boomers determined to boost mental clarity will need more than a daily regimen of crossword puzzles and ginkgo tea.

To sharpen your mind and protect your brain from the vagaries of Alzheimer's disease, you'll need to feel the mental burn, baby.

There's no elixir to drink or vitamin to swallow that will guarantee warding off what 78 million aging baby boomers fear more than wrinkles and gray hair: the prospect of losing their minds.

A daily routine of crossword puzzles and Sudoku won't be enough to ensure a brawny brain when you're 80. What does appear to beef up the brain is hard work, both physical and mental.

Neuroscientists are finding that what keeps the brain fit and mentally agile as people head into their 50s, 60s and 70s is what keeps their bodies fit: exercise, good nutrition (think antioxidants and omega-3 fatty acids), plenty of water, sleep and reduced stress.

Research is showing that a variety of new, challenging activities keeps the brain fit and producing neurons.

"There's no question that if you maintain sufficient activity of brain cells, the brain cells will function well and even promote regeneration," says neurologist Patricio Reyes, director of Alzheimer's disease and cognitive disorders research at Barrow Neurological Institute at St. Joseph's Hospital and Medical Center in Phoenix. "What we can do for preventive measure is keep the mind active. Use it or lose it is very true."

Like the fitness movement that catapulted gym memberships and personal trainers into the mainstream, the brain-fitness trend promises to become as common, sophisticated and lucrative as cardio workouts and strength training.

We accept that a well-rounded fitness program includes aerobic and strength training, keeping the cardiovascular system and muscles in shape.

Same thing with the brain, says neurologist Tom Perls, associate professor of medicine and geriatrics at Boston University.

Perls designed Brain Builders for Eons.com, a boomer-focused Web site.

"The idea is different exercises build up different areas of the brain, and that translates into improved function," Perls says.

Eons.com includes exercises in five areas: memory, language, motor skills, executive function (problem solving) and visual skills.

The trivia topic "TV moms," for example, boosts memory skills. Diner Dash, in which players control a multitasking waitress, exercises motor skills. The site keeps your score to track progress.

Mattel and Nintendo are among the first manufacturers to capitalize on boomers' growing demand for brain-building exercise equipment.

Mattel has Brain Games, a handheld electronic game developed by physician Gary Small, director of the University of California at Los Angeles Center on Aging for Radica. Games include word hunts, memory and reasoning exercises.

Nintendo's Brain Age, for its handheld DS system, offers a baseline test to gauge your brain's "age." Players keep fit by engaging daily in a series of games designed to exercise different parts of the brain, the goal to improve your brain's age. Such games are the mental equivalent of boot camp.

"Just as we learned that running up and down the street is not as good as going to the gym, with exercise machines to train muscle groups and work out on a circuit, the brain analogy of that can be delivered on the Web," says neuroscientist Elkhonon Goldberg, who wrote *Wisdom Paradox: How Your Mind Can Grow Stronger as Your Brain Grows Older* (Gotham, 2006, \$15 paperback).

Although you may not work up a sweat, exercising your brain is grueling work. It can be exhausting if you follow the experts' advice and play games that involve areas of your brain that are rather dormant.

Aging creates a kind of mental laziness, Goldberg says. The brain creates mental economies and efficiencies over the years, but these routines "don't do much good for your brain," Goldberg says.

"To protect and enhance it, you need to do novel and diverse activities," he says. "But most human beings would go to any length to avoid the hard work of thinking, just like they do physical exercise."

Research shows that performing these mental gymnastics at least once a week will create the cognitive reserve your brain can tap if Alzheimer's or other dementia strikes.

There's nothing you can do to prevent Alzheimer's disease, Perls says, but using parts of the brain not normally exercised can build functional reserve. Such exercises can build more connections between brain cells among middle-age adults, which can delay the onset of Alzheimer's, Perls says.

For Perls, the challenging exercise has been Sudoku. It's something that meets the important criteria for brain fitness: novel, complex and challenging. Those activities engage the frontal lobe, the CEO of the brain.

It's important to tackle new tasks, such as learning a new language, starting to paint or participating in dance class.

"If you don't activate those neurons, they die," says Alvaro Fernandez, educator and co-founder with Goldberg of SharpBrains.

Fernandez sees the San Francisco-based software company (sharpbrains.com) as a clearinghouse for science-based programs, information and products for memory and brain fitness.

"If you want to grow your muscle, you have to challenge yourself," he says.

But it's a lengthy process, akin to training for a marathon.

"You can't be too ambitious, or it will be counterproductive," Fernandez says.

And like exercising your body, it's never too late to start.

If Alzheimer's occurs, it's possible to compensate with a regimen of brain exercises.

"It may only improve the quality of life where you feel more in control and you can train different areas," Fernandez says.

In the meantime, don't worry, Fernandez says. It's bad for the brain.

"Aging is change, and some things can go better and some things can go worse. We should not worry too much."

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