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VITAL SIGNS

Beating forgetfulness and boosting the brain

What to know and do about midlife attention, memory problems

By [Kristen Gerencher](#), MarketWatch
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Second of two parts. [See first story.](#)

SAN FRANCISCO (MarketWatch) -- With a rewarding career and two teenage sons, Cathryn Jakobson Ramin wasn't about to let her growing attention and memory problems derail her life, though they knocked her for a painful loop.

Common words increasingly escaped her at inopportune moments. Upon parking at her house, she forgot to lock the car door, allowing burglars to use the garage door opener to break in and make off with the contents of her husband's office.

Video: Beating forgetfulness



Midlife attention and memory problems are common but not inevitable. Kristen Gerencher explores the burgeoning brain-boosting business with author Cathryn Jakobson Ramin and Posit Science CEO Jeff Zimman.

"In my mid-40s something drastic started happening," Ramin said. "I found I really could not maintain a train of thought, and that disturbed me a great deal."

She responded by turning herself into a human guinea pig, testing remedies including vitamins and diet changes, prescription drugs, neurofeedback and cognitive therapy aimed at treating insomnia. She documents her immersion in the neuroscience world in her new book "Carved in Sand: When Attention Fails and Memory Fades in Midlife."

Ramin interviewed 300 people ages 42 to 65, roughly the same age as baby boomers born between 1946 and 1964, and found they commonly suffer from "frontal lobe overload," where competing stimuli overpower the brain's decreasing ability to sort out relevant information.

"What is changing is our ability to pay attention," she said.

As boomers age, the drive to correct such discomfort has implications for health and wellness, employment and corporate training -- even sports. It's giving rise to a burgeoning business of brain-boosting products and services, as well as exploration into "cognitive enhancing" prescription drugs.

The market for brain-fitness software targeting U.S. adults is estimated to be \$80 million to \$100 million this year, up from \$60 million last year and \$2 million in 2005, according to SharpBrains, a San Francisco-based portal that helps individuals and companies navigate brain-training information, products and services.

Of course, midlife isn't the only time forgetfulness becomes apparent. Teenagers are notorious for it. Pregnant women and new mothers often complain of "mommy brain." Cancer patients sometimes refer to memory lapses as "chemo fog."

Cognitive tradeoffs

Not all midlife absentmindedness is a marker for decline. Often overlooked as culprits are prescription and over the counter drugs, which can make concentrating difficult.

It's also easy to confuse age-related memory problems with the effects of undiagnosed depression or anxiety, which are reversible, said Dr. Gene Cohen, director of the Center on Aging, Health & Humanities at George Washington University Medical Center and professor of health-care sciences, psychiatry and behavioral sciences in Washington. "Depression actually shrinks a part of the brain called the hippocampus, which deals with laying down new memories."

What's more, people's perception of forgetfulness often changes as the years go by, making it more likely that tasks they routinely forget in youth raise red flags in middle age.

"A reasonable amount of forgetfulness is normal," Cohen said, noting it's the kind that interferes in a significant

way with social or work functioning that should be cause for concern.

Aging human brains often show gain and decline at the same time. "It's a serious mistake in almost any aspect of how we function to look at what one perceives to be negative change in isolation because there's almost always something going on to compensate for it."

While older adults have fewer brain cells than their younger counterparts, they also experience what Cohen describes as "moving to all-wheel drive, where you begin to use both hemispheres in synchrony." Word retrieval may slow down in midlife, but vocabulary, the number of words at a person's command, is still growing, along with other developmental benefits, he said.

The risk of Alzheimer's disease and other forms of dementia does rise with age, but Alzheimer's is most likely to strike in the 80s, said Karleen Kos, director of planning and evaluation for the nonprofit Alzheimer's Association in Chicago. "Alzheimer's is not a normal part of aging,"

Brain training takes off

The computer-based Brain Fitness Program from Posit Science in San Francisco aims to improve sound processing and memory, and the company plans to roll out a suite of exercises for visual processing later this year, Chief Executive Jeff Zimman said.

"Our plan over the course of several years here is to build out fitness equipment for each part of the brain," he said.

The sound product, which automatically adjusts to a user's abilities and sells for \$395, has attracted tens of thousands of customers, Zimman said. Older adults with Humana's Medicare Advantage plans get it for free. It's been proven effective in scientific studies that have been published in peer reviewed journals such as the Proceedings of the National Academy of Science.

"It's a terrific time to be aging," Zimman said. "We're really right on the cusp of a whole new industry here that's focused on applied neuroscience."

Healthy boomers are showing as great an interest as those with more serious cognitive difficulties, he said. "Whereas we may have designed it for people to help pull them back from the edge, we have a lot people who are using the program to help make sure they maintain an edge or to get an edge."

The business of brain training started taking off after Nintendo introduced its Brain Age to the U.S. market last year, said Alvaro Fernandez, chief executive and co-founder of SharpBrains.

Is Brain Training 2.0 right around the corner?

"Brain fitness, in our view, is a lot broader than just healthy aging," Fernandez said. The same concepts can be used to help kids with attention deficit disorders or people who want to improve their peripheral vision for the basketball court, he said. It also can help professionals manage stress.

"Most people don't understand the relationship between stress and short-term memory," he said, noting that the part of the brain that deals with anger and stress can overwhelm the part responsible for reasoning and decision-making. "For some people that's the bottleneck."

Staying challenged

As for Ramin, getting her sleeplessness under control helped bring her back to better functioning, but the key was a doctor found a thyroid problem. She's now taking small doses of two medications. "Within about six months my word recall improved dramatically," she said.

Adults would be wise to regard working out their brains as essential as exercising their bodies, she said. That can involve continuing to work at a challenging job, taking a class, learning a language or to play a musical instrument, or volunteering. [See related story.](#)

"Very often volunteer activities are a place for people to be creative and not having someone standing over their shoulder saying 'Stay between the lines,'" Cohen said.

The goal is to keep raising the bar, he said. "'You want to feel as if you're mentally sweating."

Ramin agreed. "If it's not a mental challenge -- if it doesn't hurt just a little -- then you're not giving your neurons everything that you can. You're not allowing those pathways to snap, crackle and pop."

"Every study is showing there is an environmental influence that is profound and that we do have a lot of control," she added. "You can in fact rewrite your cognitive future if you start in midlife."

The good news is it's never too late, Cohen said. "'Use it or lose it' has no end point in the life cycle." ■

Kristen Gerencher is a reporter for MarketWatch in San Francisco.

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