



### New Effort Tries to Fight Disease With Word, Math Games, Even Wii for Exercise

BY AMY DOCKSER MARCUS

Doctors frustrated by a lack of a cure, or even an effective treatment, for Alzheimer's disease are trying a new approach: preventing the disease altogether.

A new project, the Cognitive Fitness and Innovative Therapies, or CFIT, is trying to keep people at risk for Alzheimer's intellectually and physically fit with quizzes and other cognitive challenges to see if onset of the disease can be delayed, perhaps indefinitely. The program, which is being advised by many famous names in Alzheimer's research and treatment, also promotes diet changes and maintaining a social life to try to slow cognitive decline and lower the risk for Alzheimer's.

Kenneth S. Kosik, co-director of the Neuroscience Research Institute at the University of California, Santa Barbara, launched CFIT with a center in Santa Barbara last year. Dr. Kosik recommends that individuals start efforts to prevent the disease in their 50s.

"By the time someone walks in my door with symptoms of the disease, it's too late" to stop it, says Dr. Kosik, who plans to open four CFIT centers in New York and California. The idea behind the new research is that lifestyle interventions may delay or prevent the disease before symptoms appear—or slow the progression of Alzheimer's once they do manifest.

The shift in thinking has been bolstered by public health efforts to prevent cognitive decline and delay or prevent Alzheimer's disease, which affects some 5.3 million Americans. A 2007 report by the Centers for Disease Control and Prevention and the Alzheimer's Association, a nonprofit group that funds research and supports advocacy and education, called for implementing findings on exercise and diet into actions people can do to maintain cognitive health. A CDC review of the scientific literature is expected to be released this year. The groups have been working together to gather data from individual states on the extent of cognitive impairment and meeting with state health officials to develop public campaigns to

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Solving these questions are part of a regimen to help prevent Alzheimer's. For answers, see page D3.

Problem

1

**What's My Number?**  
I have three digits.  
Their product is 16.  
Their sum is 11.  
The digit in the ones place is four times the digit in the tens place.

Problem

2

- Use the numbers 2, 3, 4, 5.
- Use each number only once.
- The sum of each row is even.
- The sums of the columns are equal.
- The sum of row 1 is less than the sum of row 2.

	Column 1	Column 2
Row 1		
Row 2		

Problem



- Draw each of the six shapes on a scrap of paper. Your drawing doesn't have to be exact. Arrange them according to the directions.
1. The dark circle is between two white shapes.
  2. No two like shapes are next to each other.
  3. The white circle is between 2 triangles.

# Playing Games to Outsmart Alzheimer's

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 promote brain health.

Scientists don't know exactly what causes Alzheimer's, a progressive brain disorder that accounts for the majority of dementia cases, although genetics and age likely play a role. There are only four drugs approved for the disease, but these just treat individual symptoms and don't stop the relentless course of the illness. New medicines are in testing but are likely to take years before they reach medical clinics.

Even if someone is destined to get the disease, delaying its onset for even a few years could dramatically improve quality of life. It could also reduce the estimated 500,000 new cases diagnosed every year, according to the Alzheimer's Association.

Many of the 50 people currently enrolled in the CFFT program have no clinical symptoms yet, but they know they have some sort of genetic risk of getting Alzheimer's disease. This usually means a first-degree relative who has Alzheimer's or either one or two copies of the ApoE gene, which is a risk factor of Alzheimer's.

Participants, in their 50s to 80s in age, come at least once a week to CFFT, which resembles a community center. They undergo an initial evaluation to determine a baseline level of cognitive fitness, then are re-evaluated again after six months and a year. The center tailors a regimen for each individual based on a combination of physical exercise, diet, cognitive challenges, music therapy, and social interaction to try to stave off the disease. The CFFT center charges participants \$4,000 a year, which it says is to cover the costs of maintaining the program. Dr. Kosik says he raised more than \$1 million in private donations, which helps defray the program's costs and provides financial aid to one-quarter of the participants who can't afford the full price of the program.

Participants follow an exercise regimen and a meal plan based on the Mediterranean diet, and control blood pressure and cholesterol. Since one of the risk factors for cognitive decline isn't having friends, there are social activities at the center, ranging from a Wii station where people can join in games to groups for singing and playing music. At CFFT, like other programs, people are encouraged to take on increasingly difficult brain challenges to improve cognitive



Daryl Peretto/Luxco for The Wall Street Journal

CFFT's Carrie Grabenauer, far right, says Connect 4, as well as other board games, "keeps the mind active."

function.

Alzheimer's researchers over a decade ago got excited about the protective ability of cognitive activity, such as brain challenges or learning a new language, after early results from the so-called Nun Study. Started in 1986 and still going on, the study follows 678 nuns, ages 75 to 106, of the same religious congregation but living in various U.S. cities, including Milwaukee and St. Louis.

In a report published in 1996 in the *Journal of the American Medical Association*, or JAMA, researchers reviewed the autobiographies found in the convent's archives of 93 of the women. Shortly before taking their religious vows, these women, then mainly in their early 20s, were asked to write a short autobiography, no more than 200 to 300 words, describing their families and the events that led them to join the convent.

The researchers examined these same women 58 years later. They found that women whose essays were richer in the number and complexity of ideas expressed had significantly lower rates of Alzheimer's disease.

From this and other subsequent studies came the notion that high levels of linguistic ability—which involve processes the brain uses to retrieve information—developed early in life might prevent dementia later on. Now, some scientists think these same abilities can be created or reinforced later in life too, and help lower risk of dementia.

Jeanette Shackell, 85, a widow who lives in a retirement community in Santa Barbara, was referred to CFFT by a neurologist after having memory lapses such as trouble recalling the names of people who live in her community. Once a week, Ms. Shackell drives herself down

the road to the center, where she plays cards and board games like Connect 4 and Mastermind, which require skills such as planning moves ahead in order to win. She plays Wii games to help her with her balance. And every other day, for 20 to 30 minutes on her computer at home, she uses a software program that gives her increasingly difficult brain challenges to keep her mind sharp.

"I am much better at recalling names now," Ms. Shackell says. "When I go into another room, I remember why I went in."

After a year coming to CFFT, Ms. Shackell has improved her cognitive-fitness scores, Dr. Kosik says. But he adds that it's too soon to know if the program is helping Ms. Shackell—or any of the participants in CFFT—delay the onset of Alzheimer's. Dr. Kosik says that getting people to adhere to cognitive health regimens isn't always easy, but one of the successes of the program is the high level of adherence to diet, fitness, and cognitive exercises. Most, but not all, of the participants maintained or improved their cognitive fitness test scores, but Dr. Kosik says these tests have limits. The group is still small, they started at different baseline levels, he says, and sometimes people do better on tests that they re-take because they remember the previous test.

Dr. Kosik says CFFT is working to set up a control group of senior citizens at a local assisted-living facility who aren't participating in the program, to compare how they fare over time in terms of cognition and Alzheimer's diagnoses.

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## Alzheimer's Answer Key

1) What's my number?

Answer: 128

2) Use the numbers 2, 3, 4, 5. Use each number only once.

Answers:

	Column 1	Column 2
Row 1	4	2
Row 2	3	5

	Column 1	Column 2
Row 1	2	4
Row 2	5	3

3) Draw each of the six shapes on a scrap of paper.

Answer 1:



or

Answer 2:

