

Alzheimer's Patients Respond To Cognitive Techniques

Kathleen Lourde

Lynn Lazarus Serper, a long-time teacher of children with learning disabilities, had just completed her class work for a PhD in cognitive development at the University of Massachusetts at Amherst. She'd had great success teaching her students, "so I wanted to have a better understanding of how the brain, even disabled, takes in information, holds onto it, and uses it," she says.

She was working on her dissertation one day when suddenly an artery in her brain burst in two places. Her son found her, unconscious on the floor, 22 hours later. He rushed her to the hospital where a neurosurgeon operated on her brain and sealed the two aneurysms.

The operation was a success.

But in the recovery room she suffered a cerebral stroke and fell into a coma for three weeks.

When she finally woke from the coma, she was confused and disoriented. She wasn't able to think or speak clearly. Someone told her she had aphasia, which is an impairment of the ability to use, remember, or comprehend spoken or written words.

"I knew what aphasia was from my years as a teacher of learning-disabled children," she says. "With determination, I tried to say some words, but the only phrase I could say was 'How are ya?' Other words were jumbled or caught in my throat. I looked out of the window and felt the devastation of a life lost. All the learning from the doctoral program and

the hopes of possibilities were gone," she says. "I sobbed."

In addition, her short-term memory was damaged, along with her ability to count and to think, and her medical team thought her cognitive losses were permanent. They advised her family to arrange for long term care.

The Brain Can Heal Itself

Sometimes a lie can be a lifesaver. In 1990, when Serper suffered her aneurysms and stroke, "the medical world didn't yet believe that the brain could heal from damage." But a friend of Serper's, a doctor, came to visit her in the hospital and told her something he didn't believe to be true: "He said 'You're going to get all of your skills back,'" says Serper. "It will take a long time and you'll have to work very hard, but you are going to get your skills back.' And that became the mantra of my recovery," she says.

Her doctor friend placed her in residential cognitive and physical rehabilitation for six months and language therapy after she returned home. Her improvement was very slow, but she was improving.

Serper got another push when the chair of her dissertation committee told her to finish her dissertation. "She said, 'Don't give up; you've done too much work already. I didn't believe I would ever be able to finish the dissertation,'" she says.

But she took her courage in both hands and hired a writing coach. And despite the inevitable despair, she

Alzheimer's Medications

Four medications are used to treat AD: **donepezil (Aricept), rivastigmine (Exelon), galantamine (Razadyne), and memantine (Namenda).**

The first three are used to treat mild to moderate AD symptoms and act by stopping or slowing the action of acetylcholinesterase, an enzyme that breaks down the neurotransmitter acetylcholine, which is critical to the formation of memories. Memantine is used to treat moderate to severe AD and works by lowering levels of the memory-related neurotransmitter glutamate, high levels of which may damage neurons.

The drugs are an important tool, but none of them help for more than several months or, sometimes, a few years.

kept on trying, month after month, year after year, relying on her writing coach for editing and working on the exercises she had developed as a teacher.

After four years, she was writing on her own, and five years after the stroke she finally finished her dissertation, successfully defended it to her dissertation committee, and was awarded her doctor of education degree.

After seven years, people started coming to her, saying, "You're a teacher, and you've recovered when no one thought you could. Could you work with a member of my family who's having the same problems?"

"And that's how the business began," she says. She called her program The Serper Method, and, in conjunction with Alan Yoffie, whose father has Alzheimer's disease (AD), started a Brookline, Mass.-based business called Brain Enhancement Services.

"I started to work with people who had brain injury, Alzheimer's disease, aphasia due to stroke, or others who'd lost cognitive skills, and the more I put together what I'd taught as a learning disabilities teacher with what I'd learned through my own recovery, people began to improve as I had," she says.

"The main fact that I learned was that the brain isn't dead when a part of it has died," she says. "There are so many neurons in the brain that are still alive and working well. Individuals are always learning no matter what stage they're in. The brain has a natural ability to process information at all stages of illness and of life."

Cognitive Calisthenics

The Serper Method is just one of many new programs being developed and researched that take a nonpharmacological approach to slowing or delaying the progress of AD. These programs often center around cognitive training, new breakthroughs in nutrition for people with AD, exercise programs, and alternative therapies. Most

interventions are used in conjunction with others—for example, designing a regimen involving nutrition, exercise, and cognitive training—along with medication, provided in environments specially designed for people with AD (see *October issue of Provider*).

Many studies are showing that greater intellectual activity often results in greater cognitive functioning despite the presence of AD.

When a certain part of the brain has been damaged, sometimes those functions can be compensated for by using a different part of the brain or developing new cognitive strategies, according to a recent study. Another study out of Columbia University examined the blood flow in the brains of cognitively healthy elders and those with early AD. The researchers found that people with AD who engaged in more intellectual, social, and physical activities—such as gardening, reading, traveling, and going to the movies—had less cerebral blood flow, indicating greater AD pathology. The findings indicated that individuals who are more engaged in such activities can function better despite more damage from the disease.

Another study found that although the density of plaques (see *sidebar, page 25*) in brain tissue is linked to lessened cognitive function, higher levels of education obtained by persons during their lives lessened the steepness of the decline. Researchers at the Rush

University Medical Center Alzheimer's Disease Center (ADC) in Chicago, working with the Religious Orders Study, a long-term study of aging among members of 40 religious communities, came to their conclusions after comparing participants' brain tissue after their deaths with the results of earlier cognitive function tests.

Another study out of Columbia University tested the memory performance of 136 individuals over five years and found that participants with low literacy levels had a steeper decline in their ability to remember a word list immediately after seeing it, as well as after a delay.

Social involvement may also be related to retaining cognitive functioning. Findings from the Chicago Health and Aging Project found that people with more social networks and a higher level of social engagement tended to have a higher initial level of cognitive function and a reduced rate of cognitive decline over the years.

The New Wave Of Cognitive Training

The more traditional forms of cognitive training often consist of learning lists of facts to enhance memory, but new research indicates that people with memory impairments learn by reading, writing, solving problems, and reminiscing and encounter minimal frustration—and even enjoy themselves—in the process, according to Serper.

Episodic and semantic memory can

be retrieved through appropriate cueing, says Cameron Camp, director of the Myers Research Institute, which is a branch of Menorah Park Center for Senior Living, an independent, non-profit continuing care retirement community in Beachwood, Ohio.

Episodic memory includes past events and autobiographical information, whereas semantic memory includes word knowledge, concepts, and vocabulary.

Something known as “procedural memory” is preserved in dementia, he says. Procedural memory includes habits, location learning/environmental cueing, motor learning, classical conditioning, and repetition priming (the ability to improve performance after initial exposure to information).

The new AD cognitive training methods attempt to build cognitive strength based on the cognitive functions that remain.

The Montessori Method

Camp has developed a cognitive training program based on Montessori-style learning.

Maria Montessori, born in 1870, was an Italian physician whose clinical observations led her to the conclusion that children learned based on what they found in their environment, according to the American Montessori Society (AMS), New York. She began to work with a group of 60 children, during which time she developed the Montessori method of education based on her scientific observation of these children’s almost effortless ability to absorb knowledge from their surroundings and their tireless interest in manipulating materials. Her idea was to facilitate how children learn naturally, without the aid of adults.

The Montessori approach, according to AMS, is to foster competency, responsibility, life-long learning, and problem-solving. A core concept is that learning takes place through the senses—by manipulating materials and interacting with others. Learning must

The Workings Of Alzheimer’s Disease

The memory loss, confusion, personality changes and other symptoms of Alzheimer’s disease (AD) are a result of the breakdown of the connections between the brain’s neurons (nerve cells) and the neurons’ eventual death. It’s the most common of several kinds of dementias characterized by cognitive and behavioral problems.

Generally, AD first makes its presence known after age 65, and the risk of developing it doubles with every five years after that age. Still, the condition is not a normal part of aging. It is a disease.

AD begins by disrupting the functioning of neurons that control short-term memory—those in the entorhinal cortex and the hippocampus. As individuals have increasing difficulty with short-term memory, their ability to do even simple tasks decreases.

Next, AD begins to destroy neuronal functioning in the cerebral cortex, especially the areas that control language and reasoning. As individuals’ ability to reason and speak declines, personality changes begin to appear.

Eventually, the disease disrupts or kills neurons in a large portion of the brain, and individuals become helpless and withdrawn.

The Biology Of The Brain

Humans’ brains contain billions of neurons, each of which is made up of a cell membrane that contains a cell body, an axon extending from the cell body, and numerous tiny dendrites that branch out in all directions. Glial cells surround neurons, supplying support and nourishment.

Neurons communicate with each other and with sense organs via neurotransmitters—chemical mes-

sages that carry instructions controlling all of a body’s functions, including thoughts and emotions, physical movement, and automatic functions like breathing.

Produced by neurons, neurotransmitters travel down the axon where they are dispersed across synapses (gaps between neurons) and picked up by another neuron’s dendrites. At this point, an electrical charge, or nerve impulse, propels the neurotransmitters into the neuron where the messages are interpreted in the cell body’s nucleus where genes made of deoxyribonucleic acid (DNA) reside.

Then the nerve impulse discharges the neurotransmitters out through the axon and across synapses to other neurons. The amount of brain activity occurring through this process is vast: A typical neuron is surrounded by about 15,000 synapses.

To transmit messages correctly, a cell’s metabolism and repair mechanisms must be functioning correctly. A cell’s metabolic process takes oxygen and glucose from the blood and breaks them down to either transform them into energy, which makes the nerve impulses possible, or to use them to repair the cell itself.

The Alzheimer’s Disease Process

AD, due to the amyloid plaques and neurofibrillary tangles that it creates, disrupts a neuron’s ability to communicate (via the neurotransmitters), to make energy (by drawing in nutrients), and to repair itself.

■ *Amyloid plaques.* Amyloid plaques develop in the synapses. These are deposits of bits of dead ➤

cells and fragments of proteins, the largest portion of which are beta-amyloid protein peptides, which are snippets of the larger amyloid precursor protein (APP). APP is in some way associated with the cell membrane, but researchers haven't yet figured out what the protein's normal function is. Some scientists think the plaques are a cause of AD, while others think it's an attempt by the brain to protect itself.

APP is made inside the cell, but grows through the membrane until most of it protrudes beyond it. Certain enzymes snip it into fragments. Dependent on which enzyme does the snipping (alpha-secretase, beta-secretase, or gamma-secretase) and where it does the snipping, one of two things happens, according to the "Progress Report on Alzheimer's Disease 2004-2005," published by the National Institute on Aging. Scientists don't yet know why some people's brains tend to follow the first path while others' follow the second.

In one process, if alpha-secretase snips the part of APP that has the potential to become beta-amyloid, a fragment is released that actually benefits the neuron by promoting growth and survival. If that happens, the part of APP that's still embedded in the cell membrane is snipped by gamma-secretase, releasing the rest of the beta-amyloid segment into the synapse while most of the APP stays inside the cell.

But if it's the beta-secretase that cuts the APP at the beta-amyloid site, releasing it into the synapse, the gamma-secretase then cuts the fragment that has already been released at its other end. The beta-amyloid fragment, cut at both ends, gets stuck to other beta-amyloid fragments that have been similarly released.

At this point, the clumps of up to a dozen beta-amyloid fragments

(called, at this stage, oligomers) are still soluble. Some oligomers may be cleared from the brain, but those that aren't clump together with other fragments, proteins, and cellular material and grow larger and increasingly insoluble (called, at this point, protofibrils and fibrils), until they become plaques.

■ *Neurofibrillary tangles.*

Neurofibrillary tangles are twisted threads of proteins—primarily one called *tau*—that develop inside the cell itself. *Tau* normally binds to and stabilizes a cell's microtubules, which transport nutrients throughout the cell. In AD, too many phosphate molecules attach to *tau*, causing it to separate from the microtubules.

The loose *tau* collects together, forming threads, and these threads get tangled up with each other.

Meanwhile, the microtubules disintegrate, causing the cell to die.

New Research Into Plaques, Tangles

Scientists originally thought that the fibrils and plaques caused the neuronal damage and cell death, but new research is indicating that the plaques may actually be an effort to get the harmful beta-amyloid away from the neurons. Instead, the damage may be due to the oligomers that don't develop into plaques.

Recent research from Northwestern University indicates that some oligomers attach themselves to the ends of dendrites and axons, blocking communication via the synapses and thereby causing the neuron's malfunction and death.

The new knowledge has led to further research that may result in more effective medications.

Researchers from the University of Wisconsin at Madison found that laboratory mice that had early-onset AD genes inserted into their DNA developed lots of beta-amyloid deposits but showed no cognitive decline. They found that the mice

allow time for students to see the interdisciplinary connections of knowledge and to create new ideas. These experiences are precursors to the abstract understanding of ideas. The method also considers that the whole individual—physical, emotional, social, aesthetic, spiritual, and cognitive—is inseparable, and learning should reflect this. Teachers must understand the needs of individuals' age levels, abilities, and cultures, and should create individual learning plans. Learning must include a partnership with the family and encourage social interaction for cooperative learning, peer teaching, and emotional development.

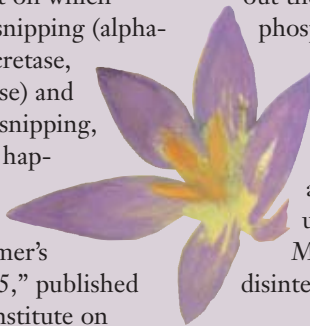
Spaced Retrieval

An essential component of Camp's Montessori-based cognitive training involves the concept of "spaced retrieval," which is based on procedural memory. This is in keeping with Montessori's emphasis on learning that is appropriate to an individual's stage of life and abilities.

"Spaced retrieval means giving people practice at successfully remembering information over longer and longer periods of time," says Camp. "At first, you may wait 30 seconds before asking the question again. Then wait for one minute, and ask again. Then wait two minutes, four minutes. It's an expanding rehearsal approach."

For example, a cognitive trainer might say to a resident, "If you can't think of the name of something, I want you to describe it. What do you do if you can't think of the name of something?" The resident responds, "I should describe it." When the resident responds, whether correctly or not, the trainer should provide feedback and celebrate success.

The purpose of spaced retrieval is to help individuals learn to remember information for extended periods of time—days, weeks, months. There's a practical focus to the learning: Goals include such things as helping individuals remember to take their walker



when they want to walk, to remember to grab the arms of a chair when they sit down, to take a sip of liquid after a bite of food if they have trouble swallowing, to remember where they are and what their family members' names are.

Tools include references. For example, if a resident becomes anxious about whether or not a visitor will come soon, the person can be given a visitor's book where visitors can write down when they're coming back, and residents are trained to refer to the book when they become anxious.

Another Montessori-based component is peer teaching. Camp trains people with early-stage AD to be group leaders for cognitive training sessions for people with more advanced AD.

"There are lots of ways to mess it up" if a person hasn't been trained in the technique, says Camp. One of the worst is to make residents wait too long for an answer if they can't remember it themselves. "If they don't remember right away, tell them the answer right away, and then ask them again right away," he says. "Otherwise, they learn to hate therapy. If they're successful, they learn to like therapy."

Another way to go wrong with the program is to pick a goal that doesn't make sense to the client, Camp says. "If you're trying to train them on something they don't think is important, they may say the words you want them to say, but they may not go and get the walker [for example] if they don't believe they need it," he says.

Meaningful Activities

It's essential to find out what the individual would find meaningful to learn and to do, to pick a meaningful goal for each individual. This enhances self-esteem, provides motive and drive, and reduces difficult behaviors.

"If a person becomes engaged in an activity they find meaningful, you cannot at the same time see problematic behavior," says Camp. "So we can

were producing a high level of a protein, called transthyretin, that carries the thyroid hormone thyroxine. When these mice were given antibodies that prevented transthyretin from interacting with beta-amyloid, the rate of neuron cell death increased.

When the researchers in the laboratory treated human brain cells with beta-amyloid alone, the cells died, but when they added beta-amyloid and transthyretin, very few cells died. The findings indicate that if a drug were developed that increased the production of transthyretin in the human brain, it may result in slowing or halting the progression of AD.

Scientists are also deeply involved in finding ways to combat the effect of neurofibrillary tangles. In particular, promising research is developing ways to prevent the disintegration of microtubules.

Scientists at the University of California at Irvine, in an immunotherapy study, introduced beta-amyloid antibodies into the hippocampus in the brains of mice with AD. They found that not only was beta-amyloid decreased in the spaces between neurons and within the neurons themselves, but abnormal *tau* was cleared from the cell body and dendrites of the treated neurons. These findings suggest a link between beta-amyloid formation and abnormal *tau*—as well as indicating that the development of abnormal *tau* followed the production of abnormal beta-amyloid.

Some research has indicated that the misfolded shape of the abnormal *tau* makes it more likely to form neurofibrillary tangles. Some studies have shown that certain proteins (Hsp90 and Hsp70) stabilize *tau*'s normal shape, reduce its ten-

dency to tangle, and cause it to reconnect to microtubules.

Scientists from the University of Kansas have managed to stabilize microtubules by treating tissue culture cells with taxol, a cancer treatment drug. The drug appears to work by inhibiting an enzyme that causes too many phosphate molecules to attach to *tau*. These scientists then developed compounds that were similar to taxol but were able to cross the blood-brain barrier.

Scientists are also deeply involved in finding ways to combat the effect of neurofibrillary tangles.

Oxidative Stress And Mitochondrial Dysfunction

Mitochondria provide the energy for a cell to fulfill its functions. Surrounded by a smooth outer membrane, it also has an inner membrane with many folds. Glucose and oxygen combine on

these folds to produce the primary energy source, called ATP.

Damaged or mutated mitochondria can cause programmed cell death (apoptosis), as well as increased formation of free radicals (highly reactive oxygen molecules). Over time, the buildup of free radicals in a neuron can cause oxidative stress, causing damage to proteins, lipids, and nucleic acids.

A recent Columbia University study showed that beta-amyloid binds to an essential protein in mitochondria and leads to increased free radicals, followed by apoptosis and oxidative brain damage.

Further, the parts of a mitochondria that produce energy are more vulnerable to oxidative stress than others, according to research from the Buck Institute for Age Research in Novato, Calif. These researchers found that an antioxidant compound prevented the damage and restored some of the neuronal functioning.

How Long Do People Live After An Alzheimer's Diagnosis?

Men over age 60 who are newly diagnosed with AD will only live a median of 4.2 years, according to a recent study conducted by scientists at the University of Washington and the Group Health Cooperative (GHC), a health maintenance organization in Seattle. Women with AD aged 60 and older had a median survival rate of 5.7 years.

Researchers looked at data from GHC's 23,000 members aged 60 and older between the years of 1987 and 1996; 521 members were newly diagnosed with AD.

Just as women tend to live longer than men in the overall population, they tended to survive an AD diagnosis longer, regardless of the age group.

AGE	SURVIVAL RATE (IN YEARS)			
	Men		Women	
	With AD	Without AD	With AD	Without AD
70	4.4	9.3	8	15.7
85	3.3	4.7	3.9	5.9

Source: University of Washington and the Group Health Cooperative

address problematic behavior by giving people something that's meaningful."

For example, at Camp's program at Menorah Park, one individual was motivated to learn to use the Web so that he could download pages of hometown newspapers for other residents in the facility, print them out, and deliver them.

Another example at Menorah Park was the development of an open-mike comedy club. A committee meets to plan the event, some people design advertising flyers, others act as greeters to people coming to hear the comedy, others make lemonade and iced tea, and others take orders. "They use a piece of paper printed with the words 'lemonade' and 'iced tea' with a box next to each word. The order taker checks the appropriate box and leaves it at the table, so that when he or she returns with the drinks he has a reference that helps him remember who ordered what drink," says Camp. People get up and tell stories or jokes, or if a person wants to participate but can't remember a joke, there's a hat

with jokes in it. Other people serve on the clean-up committee.

"The staff make reservations to be audience members, and that has another benefit. The staff see patients showing competence, humor, skills, and it has an influence on how staff interact with residents," says Camp.

Another activity that is a meaningful goal that residents work toward is setting up a food drive for the poor. "The final part of the activity is taking the food to the poor or toys to children, rather than just taking them out for a hamburger at MacDonald's," says Camp. "These are activities that are not just entertaining, but are designed to give meaningful activity to a person with AD and let them be connected to the world."

Taking The Initiative

Yoffie is chief executive officer of Brain Enhancement Services. But Serper didn't hire him through an executive personnel search firm. Yoffie's father was diagnosed with late mid-stage AD, and his father's physician told Yoffie to

prepare for the disease to progress to its end quickly. But Yoffie was determined to make sure his father had the best possible care and the highest quality of life possible. To do that, he initiated a multi-pronged program, based on the latest thinking in terms of exercise programs and specialized nutrition for people with AD, along with more socialization and assistance with activities of daily living (ADLs) to create a more frustration-free environment.

As he continued to search for ways to improve his father's life, he heard about Serper's work. At the time, Serper had never worked with someone who had AD and was working solely in the Boston area. But four months after Serper began cognitive training with Yoffie's father, his father's neurologist said, "I don't know how you've done it, but congratulations. He's stabilized."

Yoffie went to Serper and said, "This program's too good. Let's see what we can do to expand the program and reach out to more people."

For a year and a half, Serper and Yoffie have been doing just that.

The Serper Method

"I didn't learn by memorizing individual facts," says Serper of her own recovery. "I had to connect what I was learning to information that was already in my brain."

As a teacher, and then during her recovery from the stroke, she found that the brain responds most effectively when the material and the process have meaning and purpose. "In my case, I was lonely," she says. "Socialization was limited because I didn't understand or know enough to participate. I wanted to restore enough information so that events, experiences, and conversations of today made sense. Hence, I figured since the information I had gathered during my academic and growing-up years were the foundation of my knowledge, why not go back there and try to relearn, re-categorize, re-familiarize, and restore

Commonalities In The Development Of Neurodegenerative Diseases

Many neurodegenerative diseases—including AD, Parkinson’s disease, amyotrophic lateral sclerosis, dementia with Lewy’s bodies, frontotemporal dementia, and multi-infarct (or vascular) dementia—have common clinical characteristics. Some people with AD have movement disorders like those of Parkinson’s disease. Many people with Parkinson’s disease have dementia. Symptoms common to many neurodegenerative diseases include sleep-wake disorders, delusions, psychiatric disturbances, and memory loss.

LIFETIME INFLUENCES	DAMAGE PRIOR TO SYMPTOMS	EARLY SYMPTOMS
Genes Environment Systemic factors	Amyloid plaques Synuclein deposits <i>Tau</i> tangles Other abnormal protein deposits Nutritional compromise Hormonal changes Reduced oxygen flow to tissues Toxic processes	Tremor Memory loss Executive function problems Movement problems Gait and balance problems Sleep-wake disorders Hallucinations Delusions Rigidity

Source: National Institute on Aging, “Progress Report on Alzheimer’s Disease 2004-2005”

information of the past as best as I could?”

Her self-developed cognitive training program centered around restoring what she had once learned about history, geography, math, and other information gleaned through reading. That kind of training helped her to improve not just her memory, but also coping skills and problem-solving strategies. “The more I developed strategies for solving problems,” she says, “the more able I was to write, think, and create.”

The academic learning was supported by exercises she’d used when teaching people with learning disabilities, which were designed to strengthen the areas that the brain loses when affected by illness or injury—problem solving, visual memory, auditory memory, sensory perceptions, and comprehension. These cognitive calisthenics, which are an integral part of The Serper Method, are short inspirational stories, generally about someone overcoming

an obstacle, written in large print with attention-grabbing subjects, followed by retention exercises such as fill-in-the-blanks, word-finds, vocabulary scrambles, comprehension exercises, and sentence scrambles.

The cognitive training focuses on individuals relearning “meaningful information,” centered around reading, history, geography, math, and current events. It works to develop skills related to comprehension, problem solving, logic and reasoning, effective listening, memory, conversation, and social skills and provides it in a format that contains reference tools to help participants learn to use strategies to help them find answers to questions, thereby reducing the frustration factor.

Proving It Works

Nancy Emerson Lombardo, a neurologist at the Boston University School of Medicine’s ADC and E.N. Rogers Memorial Hospital in Bedford, Mass.,

researched The Serper Method in her Brain Enhancement Strengthening Treatment (BEST) pilot program.

The program was conducted in affiliation with the Boston University School of Medicine, and took place at an Alzheimer’s care facility—The Atrium-at-Drum Hill in North Chelmsford, Mass. Its goal was to determine whether a well-coordinated, intellectually stimulating environment can improve memory, cognitive and social functioning, and overall quality of life for people with early-stage AD.

Study participants were randomly assigned to control and intervention groups. Those in the intervention group were given The Serper Method program for six months, followed by a series of standard neuropsychological tests and a performance evaluation.

The study found that the program taught participants that they can still learn and grow despite age-related memory challenges, and that BEST participants noticeably improved or maintained cognitive skills.

Focus groups and open-ended questionnaires revealed that BEST participants, caregivers, and family members believed that the treatment had a positive effect on self-image, conversation, socialization, and interest in daily experiences, and many continued using the skills they’d acquired long after the program had ended.

Unfortunately, standard neuropsychological tests didn’t capture the experience because of the small study size. Studies conducted by other researchers have shown that standard neuropsychological tests also tend to be inadequate to reflect the kinds of learning possible for people with AD.

After the study’s completion, JoAnn Thomas, the facility’s executive director, wrote an evaluation on the program. Her conclusions were that the program had improved participants’ memory, socialization, conversational abilities, confidence and self-esteem, ability to perform ADLs with less assistance, and had eased the workload

on caregivers and facilitated more time spent in conversation between caregivers and participating residents. She found that even after the program was over, participants continued to seek out more complex material for “study time.”

Becoming A Cognitive Trainer

Brain Enhancement Services trains cognitive educators (a trademarked term used for people trained in The Serper Method to work with people with AD). The training program for cognitive educators involves a three-day program on The Serper Method and related clinical information.

The training includes class work on cognitive training methods, and then participants work directly with people with mid-stage AD, under supervision, followed by an evaluation.

After the three-day program is complete, they undergo a practical exercise during which trainees work with their own clients for a period of time. The participants call in weekly and report on their work and are assessed on how effectively they’re implementing the methods. Once certified, cognitive educators work one-on-one with individuals with AD for six months in 1.5-hour weekly sessions.

Myers Research Institute’s Camp also conducts one- and two-day training seminars for caregivers. The first day of the seminar teaches the program and how to implement it, and the second teaches people how to train other people in the use of the Montessori-based spaced retrieval method and how to get credentialed for it, says Camp.

Seminars for providers on how to implement the technique also teach how to bill Medicare for the service, document the effectiveness of the program and measure progress, generate referrals, and help certified nurse assistants maintain the therapy once the program has ended.

“So, we don’t just teach a technique, we teach how to create an infrastruc-

ture to make the program successful,” says Camp.

Camp is also developing a Web-based course and is testing the beta version of it this winter.

Conducting Training In The Facility

Brain Enhancement Services has since developed a workbook program to enable people in long term care to hold group sessions for residents who want to try cognitive training but don’t have the money, time, or health to be able to travel to Boston for individual sessions.

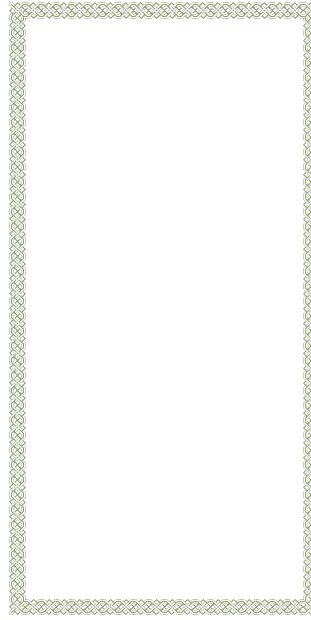
The workbook is a structured three-month learning program with activities to stimulate memory and brain function in multiple areas of the brain. The activities emphasize frustration-free learning through the same kinds of stories used in their on-site training that offer inspiration, expand speaking vocabulary, stimulate logic and reasoning, utilize references to solve tasks, and exercise spatial perception, visual memory, and factual memory while helping participants relearn reading, history, and geography.

The workbook program includes a best-practices manual and a telephone-based orientation session for the long term care facility administrator or program director on what approaches work best to bring out the logic and reasoning of their individual residents.

Dementia With Dignity

“A person with dementia is a person,” says Camp. Frustration and despair “are human reactions you and I have, so it’s important to always emphasize the person, not the disease, and to focus on the abilities that remain,” he says. “Emphasize the person’s strengths, and enable them to demonstrate them.”

No matter what their stage of life or



physical or cognitive function, it’s important to help people develop to their highest potential. Materials and activities need to challenge people with AD while still allowing them to succeed, says Camp. “If it’s too simple, the person with AD will say ‘This is boring; why are you treating me like a child?’ If it’s too demanding, they will get frustrated,” he says.

Working to improve one’s mind also provides a purpose all on its own. One patient of Serper’s, though Serper prefers the word “student” to “patient,” has been stabilized for eight and a half years. “He has said to me a number of times, ‘When I get lazy and don’t feel like working on the program, I find I get lethargic the whole day. If I get myself up and start working on the program, my energy comes back and I can do almost anything that I want to do that day,’” Serper says.

Serper has a story about a woman in long term care whose son, although he visited her often, found it difficult to initiate conversations with her. The mother underwent cognitive training.

When her son came to visit again, she told him pointedly, “Don’t forget, my brain is still working, and I can learn and I can remember. So you have to talk to me.” ■

Kathleen Lourde is a freelance writer based in Dacoma, Okla.

For More Information

■ For information on The Serper Method, go to www.serpermethod.com.

■ For information on the Myers Research Institute, go to www.myersresearch.org.