

The Ties That Bind

Staying social keeps the mind active.

BY AMY PATUREL, MS, MPH

Michael Pearson was 64 years old when doctors diagnosed him with Alzheimer's disease (AD). That was in 2012, but Pearson recalls that his brain had been failing him for years. He would pay the same bill multiple times, he had trouble remembering names, and he struggled to keep appointments. One time, Pearson missed two flights in the same day.

Alzheimer's hit his family hard. Pearson's mother and both of his grandfathers, plus several aunts and uncles, had all been handed the same diagnosis. But Pearson was not someone who seemed vulnerable. He was a science teacher who spoke six languages fluently and had visited more than 70 countries.

A lifelong bachelor, Pearson has a small social network scattered all over the world, but he spends most of his time at home alone. His older sister, Kathi Dunn, is unaffected by Alzheimer's. Perhaps not coincidentally, she has a large social network and a family of her own.

"Of all the people in our family, Michael is the one who has lived with the greatest amount of isolation. He is also the one who was diagnosed at the earliest age," says Dunn. Pearson's grandfather and mother both began displaying symptoms of AD in their late 70s; neither one had ever lived alone. The question is: Do people choose to be alone because they sense they are experiencing cognitive decline?

"Perhaps even at a subconscious level, people realize they're slipping and they may be embarrassed," says Janet Jankowiak, MD, a geriatric and behavioral neurologist in Boston and a member of the American Academy of Neurology (AAN). "They can't remember people's names, they can't find words, and they don't want people to see them in that state."

That was certainly the case for Pearson, who says his weakening short-term



memory eroded his self-confidence and caused him to avoid social activities.

Of course, there are many factors that come into play in triggering AD, and there are many people with lots of family and friends who still develop the disease. But scientists looking at a range of AD risk factors have stumbled onto some intriguing evidence suggesting that people who spend a lot of time alone may be at

risk for developing AD.

Indeed, experts say, fostering social ties is more important than ever. Not only do social relationships enhance quality of life, but a growing body of research also suggests that maintaining connections with others could help stave off cognitive decline and even stall its progression once it sets in.

THE FRIENDSHIP FACTOR

Studies consistently show that social butterflies are less likely to develop AD than their wallflower counterparts. Research also suggests that strong social networks minimize the effect of AD-related brain damage on thinking and memory.

A study published in the journal *Lancet Neurology* in 2006 reported that those with large social circles scored higher on cognitive tests, especially tests of working memory and language skills, than those who were more reclusive—even if they had the hallmark plaques and tangles of AD. Another study, published in the *Journal of International Neuropsychological Sociology* in 2011, looked at 1,138 seniors over a 12-year period and found a 70 percent reduction in the rate of cognitive

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Five Ways to Stay Engaged

The symptoms associated with Alzheimer's disease—including changes in language, memory, and attention—can leave a person living with the disease feeling disconnected, isolated, and abandoned. Here are five ways to help your loved one stay connected:

- 1. Educate yourself.** It's important to learn how Alzheimer's may affect your loved one, and what you can do to help.
- 2. Don't make assumptions.** Ask the person with dementia which activities they enjoy most.
- 3. Don't exclude the person with dementia from conversations.** A person in the early stages of dementia can still engage in meaningful conversation. Talk directly to him or her and ask how he or she is doing.
- 4. Get active.** Invite your loved one to participate in activities you both enjoy. Go for a walk, visit a museum, or prepare a meal together.
- 5. Don't pull away.** It's okay if you don't know what to do or say. Your friendship and support are what's most important. A card, a call, or a visit means a lot and shows you care.

decline in people who were frequently socially active compared with those who were less connected. A 2013 study published in *Social Science Medicine* found that emotional support reduces feelings of loneliness, which in turn preserves cognitive functioning.

Researchers aren't clear on how, exactly, social networks bolster the brain, but they do offer theories for why an active social life helps. Social activity may protect pathways in the brain linked to memory and cognition. An extensive social network could delay cognitive impairment by providing emotional and intellectual stimulation, for example. Or, traits that enable people to build and maintain friendships may act as a buffer against cognitive impairment.

Regardless of the reason, researchers agree that people thrive when they are surrounded by positive social relationships. "While social engagement doesn't seem to directly affect pathologies related to dementia and AD, it's quite possible that having a large social network strengthens neural circuits in the brain, making them more impervious to the inevitable build-up of pathology that occurs in old age," explains Robert S. Wilson, PhD, a professor of neuropsychology at Rush University Medical Center, who has conducted several long-term studies of aging.

In fact, social behavior activates the

same areas of the brain involved in thinking and memory, so the more socially engaged you are, the stronger those cognitive networks will become.

THE THREAT OF ISOLATION

For decades, researchers have warned about the dangers of isolation, not only for its effects on emotional well-being, but also because of its physiological effects on the body. In fact, according to Louise Hawkley, PhD, a senior research scientist at The National Opinion Research Center at the University of Chicago, long-term loneliness makes seniors more vulnerable to vascular problems and creates deleterious effects in the body ranging from high blood pressure to poor sleep—both of which are linked to AD.

Researchers suspect that the physiological response to loneliness affects the immune system. "The net effect sets the stage for an exaggerated inflammatory response," says Dr. Hawkley, and inflammation has been labeled the main culprit in chronic diseases ranging from diabetes to stroke.

Loneliness turns on pro-inflammatory genes while simultaneously shutting down anti-inflammatory markers, Dr. Hawkley says. In various studies, people who reported feeling lonely have been found to secrete more early morning cortisol—dubbed the "stress hormone"—than their less lonely counterparts.

Researchers think these levels are

higher in lonely people because their brains anticipate more difficulty meeting daily demands, explains Dr. Hawkley. Excess cortisol can wreak havoc on the mind over time, creating pathology in the memory centers of the brain.

A study published in April 2010 in the journal *Psychoneuroendocrinology*, for example, found a link between feelings of loneliness and increased cortisol awakening response the next morning. Interestingly, the study also found that momentary experiences of loneliness during the day were associated with momentary increases in cortisol.

In a study published in the journal *Psychology and Aging*, Dr. Hawkley and colleagues asked 229 people aged 50 to 68 a series of questions to determine whether they perceived themselves as lonely. The people who reported themselves as lonely saw their blood pressure rise by 14.4 mm more than the blood pressure of their most socially contented counterparts over the four-year study period.

In 2012, Dutch researchers tracked the health and well-being of more than 2,000 patients without signs of dementia as part of a long-running study, known as the Amsterdam Study of the Elderly. They reported in the *Journal of Neurology, Neurosurgery and Psychiatry* that among those who lived alone, almost one in 10 developed dementia after three years, compared with one in 20 of those who lived with others.

Indeed, studies show that lonely people are also at risk for depression, although some psychologists say the opposite is true and that depression can lead to loneliness. There is also evidence that it is not aloneness, per se, but the actual feelings of loneliness that increase the risk for AD.

In a study published in 2014 in the *Journal of Neurology, Neurosurgery and Psychiatry*, researchers linked feeling

lonely, rather than being alone, with an increased risk of clinical dementia in later life, independent of vascular disease, depression, and other known risk factors.

“The question to ask, then, is whether people feel connected to others,” says Dr. Wilson. “That’s proving to be more predictive of future cognitive health than how big the person’s social network is or how frequently they interact with other people.”

THE BENEFITS OF EARLY INTERVENTION

What if you or a loved one is already showing signs of dementia—will being more socially active slow the process?

“Dementia is the very end stage of an incredibly chronic disease,” says Dr. Wilson. “By the time most people are diagnosed with dementia, they’ve probably been dealing with cognitive decline for 10-15 years, and they’ve probably been experiencing

a buildup of pathologies in their brain for decades.” But even at a late stage, researchers believe social engagement is beneficial. The caveat is that it’s difficult to say what is most effective for people with noticeable cognitive decline, since no one has studied that population to determine how well various interventions pan out, says Dr. Hawkey. Experts do agree that seeking out diverse relationships is key.

Even just from a logistics standpoint, when memory begins failing, people need the help of loved ones to nudge them in the right direction. Pearson, for example, doesn’t have anyone to confirm whether he ate or took his pills. Instead, he relies on post-it notes to keep track of things.

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“And that causes frustration,” says Dunn.

The goal, of course, is to come up with myriad ways to connect. Whether you join a church group or a weekly game of chess, or play Bingo at a local

senior center, participating in activities that involve other people can help assuage feelings of loneliness.

“The idea that social connections are important is really based in large part on the fact that social relationships give meaning to life,” says Dr. Hawkey. “Maybe it isn’t face-to-face encounters. Maybe it’s preparing health kits for kids overseas. If people feel connected to that enterprise, it may provide a sense of purpose.”

Although it seems more arduous now, Pearson knows finding that sense of purpose and staying socially engaged is important for preserving his memory. He regularly chats with a colleague overseas using Skype, schedules trips to visit with family, and spends time caring for his mom, whom he has visited religiously in a California dementia care facility for the past eight years.

“When Michael visits, mom’s eyes light up,” says Dunn. “He surely sees himself going down the same path, yet he bravely devotes time to Mom, feeding her patiently, holding her hand warmly, and engaging in lengthy conversations with her, even though she is hardly responsive.”

With his mom, Pearson doesn’t have to try. He isn’t worried about forgetting words or botching details. He can just “be.” In the process, perhaps he’s learning something about how to stall the progression of his own illness that scientists haven’t proven—yet. Being socially active in a way that is safe and comfortable, particularly when you’re also giving back to someone else, may indeed be good medicine. NN

Reach Out, Stay Connected

The Alzheimer’s Association offers many channels for people living with the early stages of the disease to connect to others with similar experiences in person, online, and over the telephone.

- ▶ **Early-Stage Support Groups** provide emotional support and resources to help people cope with Alzheimer’s disease (AD). Support groups can help participants by providing a forum to share personal experiences and strategies for daily living.
- ▶ **AlzConnected®**, powered by the Alzheimer’s Association, is an online social networking community designed specifically for people with AD and their caregivers. Members can connect and communicate with people who understand their unique challenges. They can pose questions and offer solutions for dementia-related issues, create public and private groups organized around a dedicated topic, and contribute to message boards.
- ▶ **Early-Stage Social Engagement Programs** provide individuals living with AD the opportunity to get connected. The program offers a comfortable way to have fun and socialize with others who are living in the early stages of dementia. Individuals participate in a variety of group activities, such as ballroom dancing, bowling, or attending a baseball game.

To learn more about support groups and social engagement programs the Alzheimer’s Association offers in your community, visit www.alz.org or call 800-272-3900.