

ALZHEIMER'S DISEASE

Out of the dark

JABA, UVA working to lessen effects of Alzheimer's disease

My 82-year-old mother-in-law lives in a small suite of rooms attached to the house I share with my wife and young son. In the early years of her retirement, she rambled fearlessly through the mountains of Highland County, Virginia, an active member of her church and a familiar, beloved presence at civic events and festivals. She earned a Master's degree from Old Dominion University in her youth, and oversaw a victim's assistance program that provided safety and comfort for those who had suffered at the hands of criminals.

Nowadays, she often gets lost on the short walk from the kitchen to her own bedroom. She frets about the weather, worries about the news and has difficulty following the plot of "Law & Order," her favorite television show. She loves to talk, but feels uncomfortable in the company of higher-functioning peers. She's afraid she will sound stupid when she speaks.

My mother-in-law suffers from Alzheimer's disease. Symptoms began to appear a decade ago, and worsened dramatically after her husband died in 2005. She moved in with us in 2007, and we all live in denial and dread of the day she can no longer stay here safely. A paid caregiver stays with her all day, but even that can't last forever.

The Alzheimer's Association estimates that 130,000 Virginians aged 65 or older currently suffer from Alzheimer's disease, enduring moderate to severe cognitive impairment from an illness that is largely untreatable. That number is expected to increase dramatically as the Baby Boom generation ages en masse.

The big question of "what to do?" is best pondered in small chunks. In Charlottesville, the outlook is surprisingly good.

When I visit the Jefferson Area Board for Aging's Adult Care Center, I see everything I want my mother-in-law to have in her life. Jean Bourbeau, the bubbly, upbeat director of the facility, calls it a social club, and she's not just blowing sunshine. There are several round tables in the airy common room. At one, a 99-year-old woman makes elaborate collages. Two friends work a jigsaw puzzle at another table. One staffer visits each table in turn, and another plays guitar softly near a row of west-facing windows.

In a nearby art room, the walls are lined with paintings, flowers, and a puppet theater. Effervescent senior Curtis Taylor reads a book to a small mixed group of peers and pre-schoolers, all rapt with attention. The Shining Star Pre-School adjoins the Adult Care facility, and the two populations mix frequently and to great effect. "A lot of parents seek us out," said Bourbeau, "because their children don't have grandparents nearby who can be part of their lives. Everyone benefits from the intergenerational interaction."

Mr. Curtis, as the staff calls him, is a ray of sunshine. He gurgles high in his throat when he's happy, which seemed to be all the time during my visit, and he doles out hugs and handshakes to anyone who wants one. I want my mother-in-law to meet him, but Jean Bourbeau warns me that more than one lady visitor has fallen for Mr. Curtis' charms. If his social confidence and simple joy are communicable, it's a chance I'm willing to take.

The JABA Center provides a valuable middle ground between home care and the wrenching decision to send a loved one into a long-term residential facility. According to Bourbeau, the emotional and physical cost of caring for a relative with Alzheimer's can be extreme. "About 50 percent of caregivers pre-decease their loved ones," she said. "You have to take care of yourself before you can take care of someone else."

JABA offers one-on-one case management in hopes of meeting individual needs in a group setting. Everything—from the nitty-gritty of diet and bathroom scheduling to help with finances and forms—becomes part of the process. The facility has



Alzheimer's patient Curtis Taylor participates in story time with pre-school children at the Jefferson Area Board for Aging's Adult Care Facility. (Photo by John Robinson)

a hair salon and even helps with bathing when needed. "We know that the nursing home is probably inevitable," says Bourbeau. "But we can really improve the quality of life before that happens."

That word "inevitable" rankles anyone dealing with the disease. Alzheimer's is listed by the Centers for Disease Control as the sixth leading cause of death in the United States.

Improvements in care and treatment have led to decreases in fatalities from other top 10 causes like heart disease, stroke and even cancer, but the Alzheimer's Association reports that deaths from Alzheimer's rose by 66 percent from 2000-2008.

So where's the hope? On our doorstep. In April of 2011, the Cure Alzheimer's Fund awarded a \$100,000 research grant to Dr. George Bloom, a professor of Biology and Cell Biology at UVA. Bloom, along with colleagues at other universities around the country, is investigating an exciting new direction in the detection and treatment of the disease. Where previous treatment efforts focused on muting the effects of abnormal structures found in affected brains—called 'plaques' and 'tangles'—Dr. Bloom is part of a new effort that aims to get ahead of the disease.

"None of the drug trials have been successful. Probably because by the time the plaques are abundant, to remove them is moot," says Dr. Bloom. "The plaques and tangles are, in my opinion, blinking neon lights that identify a brain that has already gone bad. What needs to be done is to detect when the building blocks of plaques and tangles start misbehaving in the first place, and trying to get to them before they do any damage." To that end, Bloom is investigating amyloid and tau—two proteins found in the brain—to determine how their chemical interactions go awry.

The full impact of Dr. Bloom's research may be years away, but his lab is working with Dr. John Lazo, a medicinal chemist at UVA, in hopes of finding some immediate applications for the basic science being done along this new avenue. Being able to identify the building blocks of Alzheimer's may lead to new diagnostic tools that can catch the disease before it is in full swing, and provide a new target for the development of more effective treatment drugs.

"Right now, we know what the overall shape is, but there's still an awful lot of work to be done before we know the details," says Dr. Bloom. "We're just beginning to do that work, and I'm very hopeful that something really good will come out of it."—*Eric Angevine*

Is it Alzheimer's?

The Alzheimer's Association lists ten warning signs of the disease.

1. Memory loss that disrupts daily life.
2. Challenges in planning or solving problems.
3. Difficulty completing familiar tasks.
4. Confusion with time or place.
5. Trouble understanding visual images and spatial relationships.
6. New problems with spoken or written words.
7. Misplacing things and being unable to retrace steps.
8. Poor judgment and decision-making skills.
9. Withdrawal from work or social activities.
10. Changes in mood and personality.

http://www.c-ville.com/Article/Features/Health_Issue_2012