

Q&A: The signs of dementia and what can be done to stave it off

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Credit: AI-generated image ([disclaimer](#))

The number one risk factor for Alzheimer's disease is age, far more than genetics. Because of the aging of the U.S. population, there are currently 6.7 million Americans with dementia, including Alzheimer's.

"That number is expected to nearly triple by 2050, which no longer

seems that far off," says Brent Forester, the Dr. Frances S. Arkin Chair of Psychiatry at Tufts University School of Medicine and psychiatrist-in-chief and chair of the Department of Psychiatry at Tufts Medical Center.

"A major challenge is with early detection of clinically meaningful cognitive impairment. Specifically, half of the people with dementia are not diagnosed at all, and in half of those who are, the diagnosis is delayed until the time at which they can no longer drive or pay their bills, and it becomes obvious to a family member or primary care clinician that there's a problem," says Forester, who is also director of behavioral health for Tufts Medicine.

"That's like not diagnosing someone with [heart disease](#) until they've had their fourth heart attack. Repairing the damage at that point is much harder to do."

Forester's research focuses on geriatric psychiatry and neurocognitive disorders, such as Alzheimer's disease and related dementias, late-life depression, and older adult bipolar disorder. He turned to research after working for many years as a clinician left him with unanswered questions. He was frustrated that the data that informed [clinical practice](#) had been collected in healthy middle-aged individuals, while his patients were in their 80s, medically complex, taking numerous other medications, and had been aging with [mental illness](#).

"The approach we have been taking is to think about not only the [memory loss](#) that impacts an individual with dementia but also the prevalent behavioral symptoms of dementia such as depression, anxiety, and agitation that drive the burden of the illness and impacts quality of life for the individual with dementia and their family," says Forester.

"Unfortunately, our [health care system](#) is not structured to recognize this illness early or to manage the holistic dementia care that patients and

families desperately need."

There's no systematic screening for dementia in primary care practice settings, but Forester and other experts believe there should be, especially if paired with diagnosis and care navigation support for primary care clinicians and families. He points out that primary care doctors screen for cancers and other illnesses, and some [guidelines recommend](#) that an annual wellness visit after the age of 65 include some sort of cognitive screen.

Having arrived at Tufts in June 2023, Forester is moving full speed ahead in his role as department chair, which he says allows for balance of his professional passions: clinical work, research, teaching, and mentorship of young medical professionals. One of his goals, aligned with the vision for Tufts Medicine as an integrated health care system, is to improve access to quality behavioral and mental health care that is delivered within primary care and other medical settings.

"Similar to dementia care, individuals with depression, anxiety, and substance use disorders are predominantly treated within the primary care medical setting. It is through integration of behavioral health care with the rest of medicine that our patients will receive access to the mental health care they need," Forester says.

Tufts Now sat down with Forester to learn about what happens to the brain as we get older and what we can do to reduce our risk of dementia.

Tufts Now: How can we tell if symptoms such as forgetfulness are a sign of normal aging or a medical issue such as dementia?

Brent Forester: With normal aging, processing speed slows, and it might

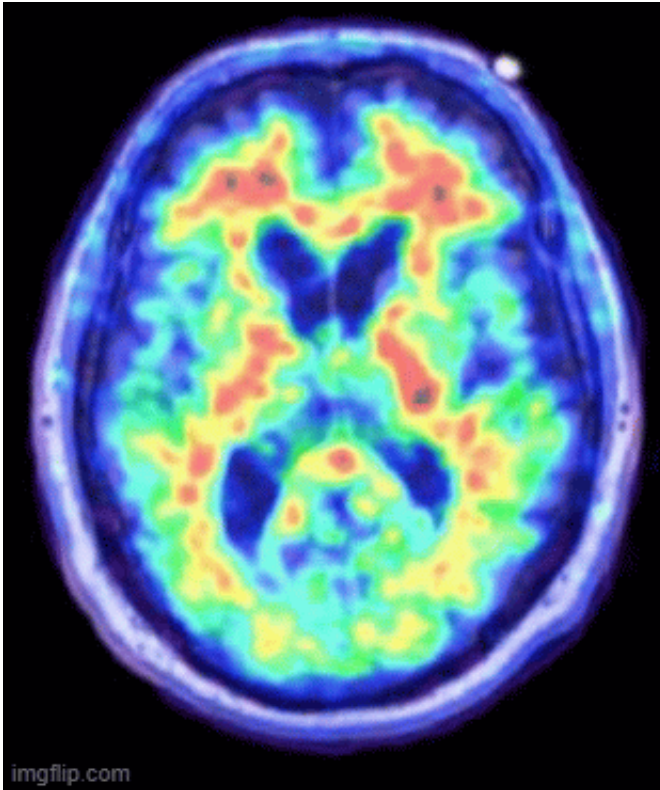
take longer to accomplish certain tasks. From a memory perspective, you might experience the tip-of-the-tongue phenomenon where you're trying to come up with the name of an actor or movie. The information is not lost, it just takes longer to come out. That is a memory retrieval problem we sometimes see in normal aging.

But if you have a conversation with someone, and five minutes later they don't remember the details of what was discussed or that they even had the conversation in the first place, that's not normal aging. That is a memory storage problem, where the brain can no longer store new information. This is the classic memory deficit—immediate recall—that we see in people with the Alzheimer's type of dementia.

Age-associated memory impairments are the cognitive challenges most of us experience as we get older, but they should not get worse in a way that affects our day-to-day functioning. When memory loss worsens, it tips over into the first clinically meaningful stage of cognitive decline—[mild cognitive impairment](#).

Mild cognitive impairment is a clinical syndrome that's caused by many underlying diseases. The hallmark of that syndrome is an impairment across one or more cognitive domains including memory, the ability to understand or speak a language, orientation to location, time, and place, and/or executive functioning, which is the brain's ability to plan, organize, reason, and use good judgment.

When an individual has a cognitive deficit in one of those domains—a decline from their norm based on age and education—and they're functioning normally, we call that mild cognitive impairment. It doesn't mean the cognitive decline is caused by a stroke or Alzheimer's disease or something else—it's a clinical syndrome. The next step is to determine the cause of the mild cognitive impairment syndrome.



A series of four brain scans showing two from a healthy brain, which is mostly blue, and two from a brain with dementia, indicated by red. Credit: Tufts University

What's the difference between dementia and Alzheimer's?

Dementia is a syndrome. It's a large umbrella category caused by multiple diseases, the most common of which is the Alzheimer's type of dementia. Even though Alzheimer's is a form of dementia and represents about two thirds of all dementia, it doesn't cause all dementias.

Any dementia is characterized by one of those changes in cognition, plus associated functional impairment, which could be as severe as the inability to dress yourself or brush your teeth, or it could be milder, like

difficulty paying the bills, or there could be a safety implication, like getting lost while driving.

There are many causes of cognitive problems that may not be dementia. In addition to collecting symptoms and functioning, physicians need to make sure there's no other medical problem—such as infection, heart disease, diabetes, medication side effects, or mental illness like depression or anxiety—causing those cognitive and functional changes.

The underlying biology of Alzheimer's disease includes [amyloid plaques](#) and neurofibrillary tangles that build up in the brain and cause healthy brain matter to shrink. This is called brain atrophy. It turns out that the plaques and tangles precede brain atrophy, maybe up to 20 years before there are any signs of dementia.

Are there steps people can take to prevent dementia, whether through diet, exercise, or mental stimulations such as games?

Although genetics and age drive the risk for dementia, there is a lot we can do to help prevent the onset or slow its decline once it occurs. One is nutrition. There's a tremendous amount of data on dietary interventions that may help reduce the risk of stroke and dementia.

Those are related because strokes are a cause of dementia, but more than that, the risk factors for stroke and heart attacks are the same [risk factors](#) for Alzheimer's disease, such as hypertension, obesity, diabetes, sedentary lifestyle, and smoking. Nutritional [interventions like the Mediterranean and MIND diets](#) reduce some of the biological processes that predispose to dementia, like inflammation and oxidative stress.

The second is exercise, and the [data on exercise is amazing](#). It doesn't

have to be training for a marathon or working out two hours a day. But aerobic exercise and strength training are important. Along with exercising your body, you need to exercise your brain by challenging it in ways it has not been challenged before, whether through games, reading, work, or something else.

How important is social engagement to brain health?

It's huge. Social engagement strengthens and helps to maintain brain function, and social isolation is predictive of bad outcomes. It's really important that, as we get older, we maintain and sustain relationships and friendships. None of those happen without effort.

As we get older, mixing exercise with socialization is a win-win. People need to find activities that are meaningful and stimulating for them. If they find it dreary and awful and negative, they won't be motivated to do it.

What's new in how medical professionals treat dementia?

For the past few decades, the only drugs we've had for treating Alzheimer's disease are medications that alter brain chemistry and slow cognitive decline for up to six months, but the beneficial effect wears off if the drug is discontinued. These drugs include donepezil, rivastigmine, galantamine, and memantine, which are still the standards of treatment, and alter various neurotransmitters including acetylcholine (which is reduced in dementia) and glutamate (which in excess is toxic to brain cells).

But the first of a newer generation of drugs [recently received full clinical approval from the FDA](#). These drugs are monoclonal antibodies that

don't just treat symptoms—they modify the course of illness. Leqembi, made by Eisai and Biogen, has been in development for many years. It's administered intravenously every two weeks and travels through the bloodstream to the brain, where it removes the amyloid plaque buildup.

This drug, when delivered to patients in the very early stages of Alzheimer's (which makes early recognition even more important) not only eradicates amyloid from the brain, but also seems to have a modest effect on the clinical course of illness over a period of 18 months.

The goal for treating this illness is not to cure, but to modify the course of illness, slow the decline, and try to improve quality of life to make the years of life ahead better. This will also reduce some of the tremendous emotional and physical burdens on caregivers.

Last year, I co-authored a book with Tom Harrison called "[The Complete Family Guide to Dementia: Everything You Need to Know to Help Your Parent and Yourself](#)." It offers practical advice to families about how to get the dementia care they need for their loved ones, how to manage common challenges of caregiving, and how to care smarter and not harder—including proactive planning on managing finances and assuring safety.

Some of the guidance we provide came from my experiences caring for patients and their families and wishing I had something to provide as a guide. The book, which is on its second printing and is being translated into multiple languages, seems to have struck a nerve with an audience of care partners and family members who are increasingly caring for an older adult population, many of whom have [dementia](#).

Provided by Tufts University

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