

Saving Yourself from Alzheimer's Disease!

By
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Alzheimer's disease (AD) is a type of dementia which destroys brain cells, causing problems with memory, thinking and behavior severe enough to affect work, lifelong hobbies or social life. Alzheimer's gets worse over time, and it is fatal.

According to the "2009 Alzheimer's Disease Facts and Figures",

- AD affects 10 million American baby boomers (that is one in eight).
- Women are affected at twice the rate of men.
- As many as 5.2 million people are living with AD in the United States, including up to 250,000 under the age of 65.

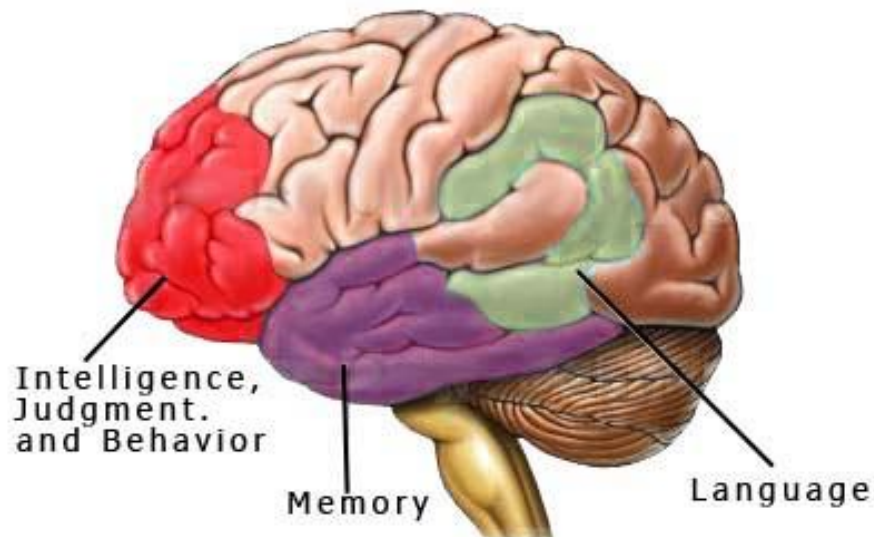
The Alzheimer's Association estimates every 70 seconds someone in America develops AD, and by 2050 they estimate that number will more than double to 1 every 33 seconds.

In 1986 Dr. David Snowdon, (Snowden 2002) an epidemiologist and professor in Neurology at the University of Minnesota, embarked on an ongoing scientific study involving 678 Catholic nuns from the School Sisters of Notre Dame. The ongoing "Nun Study" has come to represent some of the world's most significant research on ageing and Alzheimer's disease.

One of the primary questions the Nun Study attempted to answer was how pathology in the human brain relates to AD's symptoms. Today, it is known that plaques and tangles are the two most important pathological features of Alzheimer's disease. However, results from the Nun Study show that approximately one third of the sisters whose brains were found to be inundated with AD associated plaques and tangles at autopsy had shown no symptoms of dementia and scored normal results in all mental and physical tests while alive! The difference it seems, is "Cognitive Reserve".

The theory behind Cognitive Reserve is that individuals with greater cognitive (thinking, learning and memory) skills are able to delay symptoms of AD despite underlying changes in the brain. Therefore lifestyles including physical activities, intellectual pursuits and socializing are associated with slower cognitive decline in the healthy older set. There is also evidence from functional imaging studies that subjects engaging in such activities can clinically tolerate more AD pathology. It is possible that training your brain and body creates more efficient cognitive function and therefore delays the onset of dementia. (Stern, 2007)

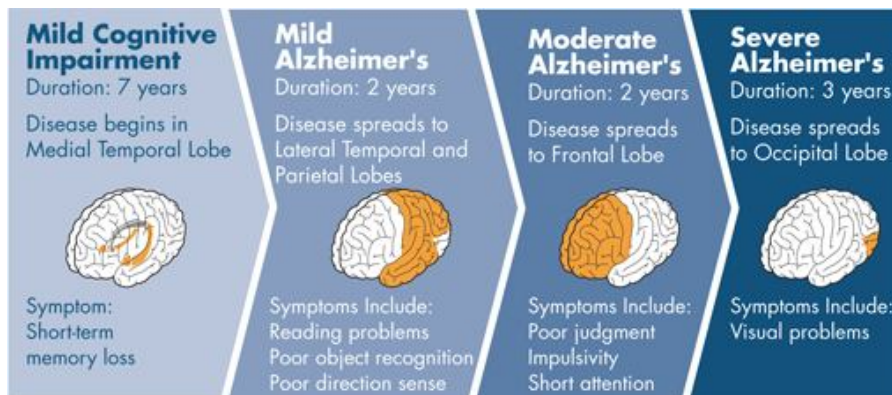
The Areas Affected by Alzheimer's



This left-side image of the brain is color-coded to show the areas of the cerebral cortex commonly affected by Alzheimer's Disease. The areas labeled include;

1. Red- the frontal lobes governing intelligence, judgment and social behavior.
2. Purple- the temporal lobes governing memory
3. Green-the parietal lobes that governs language.

Within the human brain there is a complex mix of chemical and electrical processes which allow us to speak, move, see, think, and remember. This requires a vast communications network in the brain that is made of billions of cells called neurons. To get messages through this network, an electrical charge travels to the end of the neuron resulting in the release of neurotransmitter chemicals along the myriad of pathways. Alzheimer's disease disrupts this intricate signaling system. This happens because of two abnormal structures in the brain that are created called amyloid plaques and neurofibrillary tangles. Plaques are made of beta amyloid, a toxic molecule that comes from a normal protein. Something causes enzymes to snip this protein. These beta amyloid fragments then clump together into damaging plaques. Normally, tau, found in the neurofibrillary tangles, stabilizes the internal support structure of neurons, but in Alzheimer's the disease causes threads of tau to become entangled, killing the neuron by damaging critical parts of its transport system. As Alzheimer's disease progresses, more and more neurons die. The brain shrinks. Memory is lost. (NIH Senior Health 2009).



How Alzheimer's disease progresses in the brain. Image from Medical Care Corp.

With all this being said, it is also important to point out that not all memory loss is AD. We all misplace our keys once in a while. However, memory loss that disrupts everyday life is not a

typical part of aging. Below are the 10 signs of AD according to the Alzheimer's Association plus a chart that compares AD symptoms to typical signs of ageing.

10 Signs that you may have Alzheimer's:

1. Memory changes that disrupt daily life. One of the most common signs of Alzheimer's, especially in the early stages, is forgetting recently learned information. Others include forgetting important dates or events; asking for the same information over and over; relying on memory aides (e.g., reminder notes or electronic devices) or family members for things they used to handle on their own.
2. Challenges in planning or solving problems. Some people may experience changes in their ability to develop and follow a plan or work with numbers. They may have trouble following a familiar recipe or keeping track of monthly bills. They may have difficulty concentrating and take much longer to do things than they did before.
3. Difficulty completing familiar tasks at home, at work or at leisure. People with Alzheimer's often find it hard to complete daily tasks. Sometimes, people may have trouble driving to a familiar location, managing a budget at work or remembering the rules of a favorite game.
4. Confusion with time or place. People with Alzheimer's can lose track of dates, seasons and the passage of time. They may have trouble understanding something if it is not happening immediately. Sometimes they may forget where they are or how they got there.
5. Trouble understanding visual images and spatial relationships. For some people, having vision problems is a sign of Alzheimer's. They may have difficulty reading, judging distance and determining color or contrast. In terms of perception, they may pass a mirror

and think someone else is in the room. They may not realize they are the person in the mirror.

6. New problems with words in speaking or writing. People with Alzheimer's may have trouble following or joining a conversation. They may stop in the middle of a conversation and have no idea how to continue or they may repeat themselves. They may struggle with vocabulary, have problems finding the right word or call things by the wrong name (e.g., calling a "watch" a "hand-clock").
7. Misplacing things and losing the ability to retrace steps. A person with Alzheimer's disease may put things in unusual places. They may lose things and be unable to go back over their steps to find them again. Sometimes, they may accuse others of stealing. This may occur more frequently over time.
8. Decreased or poor judgment People with Alzheimer's may experience changes in judgment or decision-making. For example, they may use poor judgment when dealing with money, giving large amounts to telemarketers. They may pay less attention to grooming or keeping themselves clean.
9. Withdrawal from work or social activities. A person with Alzheimer's may start to remove themselves from hobbies, social activities, work projects or sports. They may have trouble keeping up with a favorite sports team or remembering how to complete a favorite hobby. They may also avoid being social because of the changes they have experienced.
10. Changes in mood and personality. The mood and personalities of people with Alzheimer's can change. They can become confused, suspicious, depressed, fearful or

anxious. They may be easily upset at home, at work, with friends or in places where they are out of their comfort zone.

The difference between Alzheimer's and typical age-related changes

Signs of Alzheimer's

Typical age-related changes

Poor Judgment and Decision making.	Making a bad decision once in a while.
Inability to manage a budget	Missing a monthly payment
Loosing track of the date or a season.	Forgetting what day it is but remembering later.
Difficulty having a conversation	Sometimes forgetting which word to use.
Misplacing things and unable to trace steps to find them.	Losing things from time to time.

If you find you fall into one or more categories, call BrainAdvantage today.

Our assessments will give you a good view of your cognitive function and our training will help you build up your Cognitive Reserve.

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