What is Alzheimer’s Disease?

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What Is Alzheimer’s?

Alzheimer’s disease is a condition that damages the brain and causes dementia. It is dementia’s most common cause. The term dementia describes a group of symptoms which includes memory loss and difficulties with thinking, language and problem-solving.

Alzheimer’s disease is named after the doctor who first discovered it, Alois Alzheimer. It is a physical condition that affects the brain. An estimated 5.7 million people are living with Alzheimer’s in the United States today.

In Alzheimer’s disease, proteins in the brain build up and form structures called ‘tangles’ and ‘plaques.’ These structures lead to the loss of connections between the nerve cells. The nerve cells then eventually die, and this causes a loss of brain tissue.

People who have Alzheimer’s are also lacking some important chemicals in their brains. These chemicals usually help to transmit signals around the brain. So as there is a shortage of them in Alzheimer’s, the signals aren’t transmitted effectively. Some of the current treatments for Alzheimer’s can help to boost the levels of chemical messengers in the brain. This can help lessen some of the symptoms.

Alzheimer’s is a progressive disease. This means it slowly worsens as more parts of the brain become damaged over time. As this happens, the symptoms a person experiences get more severe.

What Causes Alzheimer’s Disease?

The exact cause of Alzheimer's disease is not known.

We know that the process begins with parts of the brain shrinking (atrophy). This affects the function and structure of certain areas of the brain. What we don’t know is what causes this process to start. As well as the amyloid plaques and neurofibrillary tangles that scientists have found in the brains of people with Alzheimer's disease, there are also imbalances in a chemical called acetylcholine.

It's also not uncommon to have some vascular damage in the brain with Alzheimer’s. All of this reduces the effectiveness of the healthy neurons and gradually destroys them. The first areas of the brain that are affected are the ones that are responsible for memories, but eventually, the damage spreads to other areas of the brain.

What Are the Symptoms of Alzheimer’s Disease?

Early Stages

The symptoms of Alzheimer’s disease generally start off mildly, but worsen over time and begin to interfere with a person’s daily life.

There are some symptoms of Alzheimer's disease that are commonly experienced, but you need to remember that every person is unique and not everyone will experience the disease in the same way. It's not often that two people with Alzheimer's disease experience the condition in the exact same way.

For most people, Alzheimer's begins with memory lapses. In particular, they may have difficulty with their short-term memory and struggle to recall recent events.

They may also have difficulty learning new information. These symptoms occur because the initial damage to the brain in Alzheimer's is usually to an area called the hippocampus, which is vital for day-to-day memory.

The memory of significant events that happened a long time ago in someone's life is often unaffected in the early stages of Alzheimer's. Memory loss due to Alzheimer's disease becomes worse as the condition progresses and usually begins to interfere with daily life.

Here are some common situations that people with the early stages of Alzheimer's experience:

- Losing important items such as their keys or glasses around their home
- Struggling to find the correct word in a conversation
- Forgetting people's names
- Forgetting recent conversations or events
- Getting lost in previously familiar places or on a familiar journey
- Forgetting appointments or anniversaries

Memory difficulties are typically the earliest symptoms of Alzheimer's disease, but someone with the condition will also go on to develop problems with other aspects of their thinking, perception, reasoning, and communication.

They might develop problems with:

- Language – They may start struggling to follow a conversation. They may also begin repeating themselves.
- Visuospatial skills – They can have problems judging distances. It can also affect their ability to see objects in three dimensions. They often struggle to navigate stairs or park cars.
- Planning, organizing, and concentration – This can include having difficulty making decisions, solving problems or carrying out a succession of tasks.
- Orientation – They may become confused and lose track of the date or day.

It's also common to experience mood changes in the early stages of Alzheimer's. They often become anxious, depressed or irritable. Some people withdraw and start to lose interest in activities and hobbies that they usually enjoy.

Later stages

As Alzheimer's progresses, all of the symptoms that are experienced in the earlier stages become more severe.

A person in the later stages of Alzheimer's will need more daily support from those around them. Some people start to experience delusions and sometimes even see or hear things which are not there.

Many people with Alzheimer's disease also develop behaviors that are unusual for them. These can include agitation, repeating themselves, calling out, disturbed sleep patterns or aggressive reactions. These behaviors can be distressing or challenging for the person and the people that care for them.

It's important to maintain a constant dialogue with their healthcare professionals as treatment and management of their condition might need to be adjusted as their disease progresses.

In the later stages of Alzheimer's disease, the person may become much less aware of the world around them. They could develop difficulties with eating or walking unaided. They often become increasingly frail. Eventually, the person will need assistance with all of their daily tasks, usually including washing and toileting.

Next page: What is Atypical Alzheimer's? How quickly does Alzheimer's progress? And more.

Atypical Alzheimer's Disease

Some people with Alzheimer's disease do not experience memory loss as their earliest symptom. This is called atypical Alzheimer's disease. The underlying damage is the same, but the hippocampus is not the first area of the brain to be affected.

Atypical Alzheimer's disease is rare in people who are diagnosed when they are over 65. It accounts for only 5 percent of all Alzheimer's cases in this age group.

There are three primary atypical forms of Alzheimer's disease.

- **Posterior cortical atrophy (PCA)** occurs when the back and upper-rear of the brain is damaged. These areas process visual information and are responsible for spatial awareness. Because of this, the early symptoms of PCA are often problems with identifying objects or reading, even when the person has healthy eyes. A person may also struggle to judge distances or navigate stairs. They may also seem uncoordinated when performing everyday tasks.
- **Logopenic aphasia** occurs when the left side of the brain is damaged. This is the area that affects language. The person's speech may become labored with long pauses.
- **In frontal variant Alzheimer's disease** the lobes at the front of the brain are the area that is damaged first. The symptoms are problems with decision-making and planning. The person may also behave in socially inappropriate ways or appear not to care about other people's feelings.

How Quickly Does Alzheimer's Disease Progress?

The time it takes for the disease to progress, and the life expectancy of the person with it varies greatly between individuals.

On average, people with Alzheimer's disease live for eight to ten years after they begin to display the first symptoms. However, this isn't always the case. Life expectancy following diagnosis depends particularly on how old the person was when they were first diagnosed.

Alzheimer's vs. Dementia

A lot of people confuse Alzheimer's disease and dementia. Many people believe they are the same thing and those that do know that they are different aren't sure how they differ.

Alzheimer's disease and dementia do share many of the same symptoms. But they aren't different names for the same condition. Dementia is not, in fact, a condition, but a syndrome – which means it's a term used to describe a set of symptoms.

Alzheimer's disease is the most common type of dementia, accounting for 50 to 70 percent of all cases, but it isn't the only type.

Some other types of dementia include:

- Vascular dementia
- Mixed Dementia
- Dementia with Lewy Bodies (DLB)

- Parkinson’s Disease
- Frontotemporal dementia
- Huntingdon’s Disease
- Wernicke-Korsakoff Syndrome

Is Alzheimer’s hereditary?

Alzheimer's disease isn’t usually hereditary. This means it isn’t caused by the genes received from a person's parents. Even if many members of a person’s family have been diagnosed with Alzheimer's disease in the past, it doesn’t mean that another member of the family will develop it.

The majority of cases of Alzheimer's disease aren’t genetic, but the disease is so common amongst the elderly that it is not uncommon for several family members who are over the age of 65 to develop it.

Every one of us risks developing the disease at some point, whether there is a history of the disease in our families or not. However, scientists now know that there is a gene that increases the risk of developing the disease.

The gene is found on chromosome 19 and is responsible for the production of a protein called apolipoprotein E (ApoE). There are three main types of this protein. One of these types (ApoE4) makes it more likely that Alzheimer's disease will develop in the person that carries it. This gene is extremely rare, and it does not cause the disease, it only increases the likelihood that a person will develop it.

Every person has a 1 in 1000 chance of developing Alzheimer’s disease. This risk increases to 2 in 1,000 for people over the age of 50. Only half of the people with Alzheimer's disease have ApoE4, and not everyone with ApoE4 has Alzheimer’s disease.

How Is Alzheimer’s Diagnosed?

If you or someone you know is experiencing changes such as memory loss, language difficulties or confusion, then it would be a good idea to visit your doctor for an assessment. Getting a diagnosis will rule out other conditions, give you an explanation of your symptoms, help you get the support you need and allow you to make a plan for the future.

The Mini-Mental State Examination (MMSE) is of the most commonly used test for memory problems and is often part of an assessment for dementia.

Your doctor will discuss your symptoms with you and possibly carry out a physical examination or test your mental abilities with the MMSE. Your doctor may decide to send you for further tests that may include a brain scan, completed by more specialist health professionals.

Coming to terms with a diagnosis of Alzheimer’s can be difficult, and you will probably experience a range of emotions. There is a lot of help and support available, so please do reach out for it.

How Is Alzheimer’s Treated?

There is currently no cure for Alzheimer’s disease. However, there are drugs and non-drug treatments that can lessen a person’s symptoms and appear to slow the progression of the disease.

Counseling, psychotherapy and CBT can also be helpful for people with Alzheimer’s disease. These therapies give people the chance to talk to a trained professional about any problems they are having and the way that they are feeling.

A range of alternative therapies are also available that could be of benefit to a person with Alzheimer’s.

Can You Prevent Alzheimer's?

Recently a link has been made between healthy hearts and a reduction in the risk of developing Alzheimer's disease. It would seem the best way to reduce our risk is by taking care of our hearts.

There are a few things we can do to achieve this:

- Maintain a healthy weight
- Stay active
- Quit smoking
- Exercise your brain
- Eat a healthy diet
- Reduce alcohol consumption
- Attend regular health checks

While all of these things will help to reduce our risk of developing Alzheimer's disease, the primary risk factor for the condition is age, so as we all get older there are no guarantees that we won't develop Alzheimer's disease.