

Alzheimer's disease

Alzheimer's disease is a progressive, degenerative condition of the brain. It is thought to be related to abnormal protein build up, tangles of nerve fibres and inflammation in the brain.

Beta amyloid protein builds up and forms plaques on the outside of brain cells (neurons), affecting connections between them. The presence of beta amyloid also leads to chronic inflammatory processes in the brain, which gives rise to further damage to brain cells and cognitive changes. Meanwhile, another protein called *tau* causes tangles of nerve fibres to develop inside brain cells, affecting their function.

One of the areas affected first is the *hippocampus* and associated structures; a part of the brain which deals with memory and taking on new information. This is why short-term memory loss is one of the first symptoms of Alzheimer's disease that people notice.

Alzheimer's disease is the most common form of dementia, accounting for up to 70 per cent of all dementia diagnoses in Australia. It primarily affects those over the age of 65, but can also occur in younger people. Diagnosis can sometimes be difficult and it is important to rule out other causes of cognitive impairment.

Every person living with Alzheimer's disease experiences the condition differently, depending on what areas of the brain are affected and how the person responds to the changes.

Symptoms

Symptoms may include changes to:

- » Cognition: ability to understand and process information
- » Memory
- » Executive function: decision making, planning, organising
- » Mood regulation
- » Physical aspects: sensory function, speech, movement and balance.

Symptoms can differ from day to day and at different times of the day. They can be heightened by stress, infection, ill health, fatigue and by changes in a person's physical and social environment.

Initially a person might notice:

- » Lapses in memory
- » Problems with finding the right words when speaking or repeating what was said only a short time ago

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- » Mood changes
- » Difficulty in 'thinking things through'
- » Getting lost when visiting previously familiar places
- » Being unable to identify common items or know where they belong.

Later, communication problems may increase, with a loss of ability to talk, read or write for some people.

For the person experiencing these symptoms, the emotional impact can be profound, with depression, anxiety, frustration, loss of confidence and social withdrawal being common responses.

However, with a positive approach and caring support of friends and loved ones, these aspects can be greatly reduced and the person is able to continue living a meaningful life and doing the things they enjoy.

Causes

The causes of production and build up of *beta amyloid* and *tau* proteins are being studied through a number of avenues of research, such as dietary, lifestyle, environment and genetics. The risk of developing Alzheimer's disease increases with age, however it is not considered a normal part of ageing.

Diagnosis

A diagnosis of Alzheimer's disease can be extremely challenging, but many people find it a relief to have an explanation for what they have been experiencing. It is important to obtain a diagnosis, as there may be treatments for slowing the progression of the disease that are suitable for you. There are also many support services available that a diagnosis is required to access.

Establishing a diagnosis may take some time and would ordinarily include the following steps:

- » Clinical consultation (initially with a general practitioner, then a referral to a specialist physician)
- » Medical history assessment
- » Physical and neurological examination
- » Assessment of cognitive function
- » CT and MRI scans
- » Blood tests
- » Neuropsychological testing.

Risk reduction

Current research confirms that a healthy active lifestyle, normal body weight and blood pressure, positive social interactions, mental stimulation and management of stress appear to be key factors in preventing Alzheimer's disease in up to 30 per cent of cases.

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You can modify your lifestyle through:

- » Exercise
- » Nutrition: Wholefood diet (high in vegetables, quality sources of protein, low in sugar, minimal processed foods) and limit alcohol intake (two standard drinks or less on any given day)
- » Rest
- » Involvement: Stay socially connected
- » Challenge yourself: Try learning something new
- » Healthy heart
- » Quit smoking
- » Manage stress.

Treatment

Currently there is no cure for Alzheimer's disease, however there are a number of therapies which may reduce the symptoms or slow the progression of the disease.

Disease-modifying drug treatments, known as cholinesterase inhibitors (rivastigmine or donepezil) and glutamatergic agents (memantine) have been found to be helpful for some people. They do not reverse or halt the condition, but may reduce some of the cognitive deficits in some people.

Symptom management is complex. In some situations antidepressants, antipsychotics, sedatives and anti-anxiety medications may be used to manage some of the symptoms, as well as some of the personal impacts people experience with Alzheimer's disease.

Occasionally medications may interact with each other, resulting in unintended effects, however a specialist doctor can assist you to find the right balance.

Sometimes medication is prescribed for what is called 'managing behaviours'. Evidence suggests that in the first instance a better response may be to take an empathetic, person-centred approach, rather than using medication. Further information is available in our *Understanding behaviour* booklet.

Key points

- » Alzheimer's disease is not a normal part of ageing
- » Up to 70 per cent of people with dementia have Alzheimer's disease
- » Alzheimer's disease impacts on memory and cognitive functioning due to damage to the brain caused by proteins that cause plaques outside and tangles inside brain cells
- » Diagnosis can be difficult, but will assist with accessing services and support
- » Alzheimer's disease can affect all areas of the brain, but commonly starts in the areas that deal with memory
- » Each person's symptoms and experience will be different

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- » The risk of developing Alzheimer's disease increases with age, however it can affect people as young as 40 years
- » The risk can be reduced by adopting a healthy lifestyle, challenging your brain and staying connected to family, friends and the community
- » Services and support are available and can assist with cognitive stimulation, and help a person to continue to live a meaningful life and do the things they enjoy.

About Alzheimer's WA

Alzheimer's WA is the oldest and largest dementia specific advocacy and support organisation in Western Australia. We advocate for Western Australians living with all types of dementia and provide direct care, support, education and information to assist them as well as their families and carers.

Our vision is a world where people with dementia and their families are supported and valued on their dementia journey.

Dementia is a lived human experience not just a biological condition. Alzheimer's WA provides evidenced-based support that is holistic and person-centred, and respects the individuality and experience of those living with dementia.

Support

- » Early intervention programs
- » Peer-to-peer carer support
- » Dementia advisory services including service navigation.

Services

- » Short stay respite services in our Enabling Household™
- » Day centres
- » Men's Shed
- » Friendship clubs and social support
- » Review and recommendations for your home to ensure it is dementia friendly
- » Services through home care packages
- » Services for people under 65 through the NDIS.

Education

- » Family and Friends course
- » Carer support courses and workshops
- » Financial and legal seminars
- » Courses for health professionals.

Further information

For support and information please contact us on **1300 66 77 88** or visit alzheimerswa.org.au

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the dementia experts