

Alzheimer's disease

What is Alzheimer's disease?

Alzheimer's disease is a disease of the brain that causes damage to brain cells. Alzheimer's disease is the most common form of dementia in Australia, accounting for about two thirds of cases.

If someone has Alzheimer's, they may have problems with memory, thinking skills, emotions, behaviour and mood. As a result, a person gradually loses their ability to carry out daily activities.

As the disease progresses, abnormal protein builds-up inside (tangles) and outside (plaques) the brain.. The cells eventually die which damages connections in the brain's wiring. The loss of these connections leads to the loss of brain function and the development of the symptoms of the disease. As Alzheimer's disease affects each area of the brain, certain functions or abilities are lost.

Symptoms

People with Alzheimer's disease gradually worsen over time but symptoms will differ from one person to another.

Early symptoms may include:

- progressive and frequent memory loss;
- personality change;
- confusion;
- apathy;
- inability to perform everyday tasks.

Late symptoms may include:

- showing no recognition of friends and family;
- an inability to care for self or the home;
- an inability to manage daily responsibilities;
- a display of aggression, especially when feeling threatened or closed in.

Later symptoms may take anywhere from months to years to develop. People with Alzheimer's may also experience a loss of initiative, reduced desire to exercise, a loss of orientation, loss of speech, and stiff muscles. During the later stages the person usually requires full-time nursing and could become bedridden.

Prevalence

An estimated 300,000 Australians currently live with dementia. **Without a significant medical breakthrough, that is expected to soar to almost one million by 2050.**

Dementia is not a normal part of ageing.

One in four people over the age of 85 have dementia.

Diagnosis

The early signs of dementia are subtle. Early symptoms may also vary. Usually though, people first seem to notice that there is a problem with memory, particularly in remembering recent events.

The best place to start the diagnostic process is with a doctor who, after considering the symptoms and ordering screening tests, may offer a preliminary diagnosis or refer the person to a medical specialist such as a neurologist, geriatrician or psychiatrist.

Treatment

Although the search for a cure continues, a number of drugs are currently available in Australia for use by people with dementia. Cholinergic treatments offer some limited relief for some people and are used by people in the early stages of the disease.

Memantine treatments target a neurotransmitter called glutamate that is present in high levels when someone has Alzheimer's disease. Memantine is currently approved for use for people with moderately-severe to severe Alzheimer's disease.

Other drugs may be used to treat depression, anxiety, agitation and aggression or sleep disturbances that can be associated with the disease.

Alternative therapies ranging from oestrogen treatment to anti-inflammatory agents and vitamin supplements are sometimes explored.

Research programs

A number of research projects are currently being undertaken by the Florey. For example:

- The Australian Imaging, Biomarker & Lifestyle study (AIBL) is analysing data to seek early diagnostic markers, such as blood tests, and lifestyle factors that could impact dementia.
- Scientists are analysing the biochemical make-up a certain protein that is the principal indicator of Alzheimer's disease. They are searching for it in blood and hope to make it an early diagnostic tool.
- Our researchers are seeking ways to diagnose and to treat Alzheimer's disease and Parkinson's disease - before the onset of symptoms.

The Florey's Professor Colin Masters identified that there is a build-up of a protein called amyloid beta. Our research has revealed that when this normal protein reacts abnormally with the metals in the brain, this leads to Alzheimer's disease.

The Alzheimer's disease drug PBT2 has been developed to normalise metal levels in brain tissue. Tests in one of our laboratories have shown the PBT2 significantly increased the cognitive performance of patients with Alzheimer's disease after only 12 weeks of treatment. While more clinical trials are required, it is encouraging to know that the scientific community is coming ever closer to a much-needed breakthrough.

Dementia is the single greatest cause of disability in Australians over 65.

Support & information services

Alzheimer's Australia
Tel: 1800 100 500
Email: nat.admin@alzheimers.org.au
Web: www.fightdementia.org.au

Victorian State Government
Email: aged.care@health.vic.gov.au
Web: www.health.vic.gov.au/agedcare

Feel free to contact us to find out more (details below).

Note: Alzheimer's disease data sourced from Dementia across Australia 2011-2050