

What is Alzheimer's disease?

Alzheimer's disease is the most common cause of dementia, affecting around 496,000 people in the UK. The term 'dementia' describes a set of symptoms which can include loss of memory, mood changes, and problems with communication and reasoning. These symptoms occur when the brain is damaged by certain diseases and conditions, including Alzheimer's disease. This factsheet outlines the symptoms and risk factors for Alzheimer's disease, and describes what treatments are currently available.

Alzheimer's disease, first described by the German neurologist Alois Alzheimer, is a physical disease affecting the brain. During the course of the disease, protein 'plaques' and 'tangles' develop in the structure of the brain, leading to the death of brain cells. People with Alzheimer's also have a shortage of some important chemicals in their brain. These chemicals are involved with the transmission of messages within the brain.

Alzheimer's is a progressive disease, which means that gradually, over time, more parts of the brain are damaged. As this happens, the symptoms become more severe.

Symptoms

People in the early stages of Alzheimer's disease may experience lapses of memory and have problems finding the right words. As the disease progresses, they may:

- become confused and frequently forget the names of people, places, appointments and recent events
- experience mood swings, feel sad or angry, or scared and frustrated by their increasing memory loss
- become more withdrawn, due either to a loss of confidence or to communication problems
- have difficulty carrying out everyday activities – they may get muddled checking their change at the shops or become unsure how to work the TV remote.

As the disease progresses, people with Alzheimer's will need more support from those who care for them. Eventually, they will need help with all their daily activities.

While there are some common symptoms of Alzheimer's disease, it is important to remember that everyone is unique. No two people are likely to experience Alzheimer's disease in the same way.

Mild cognitive impairment

Recently, some doctors have begun to use the term mild cognitive impairment (MCI) when an individual has difficulty remembering things or thinking clearly but the symptoms are not severe enough to warrant a diagnosis of Alzheimer's disease. Recent research has shown that individuals with MCI have an increased risk of developing Alzheimer's disease. However, the conversion rate from MCI to Alzheimer's is low (about 10–20 per cent each year), and consequently a diagnosis of MCI does not always mean that the person will go on to develop Alzheimer's.

What causes Alzheimer's disease?

So far, no one single factor has been identified as a cause for Alzheimer's disease. It is likely that a combination of factors, including age, genetic inheritance, environmental factors, lifestyle and overall general health, are responsible. In some people, the disease may develop silently for many years before symptoms appear.

Age

Age is the greatest risk factor for dementia. Dementia affects one in 14 people over the age of 65 and one in six over the age of 80. However, dementia is not restricted to older people: in the UK, there are over 17,000 people under the age of 65 with dementia, although this figure is likely to be an underestimate.

Genetic inheritance

Many people fear that they may inherit Alzheimer's disease and scientists are currently investigating the genetic background to Alzheimer's.

We do know that there are a few families where there is a very clear inheritance of the disease from one generation to the next. This is often in families where the disease appears relatively early in life.

In the vast majority of cases, however, the influence of inherited genes for Alzheimer's disease in older people seems to be small. If a parent or other relative has Alzheimer's, your own chances of developing the disease are only a little higher than if there were no cases of Alzheimer's in the immediate family.

For more information see factsheet 405, **Genetics and dementia**.

Environmental factors

The environmental factors that may contribute to the onset of Alzheimer's disease have yet to be identified. A few years ago, there were concerns that exposure to aluminium might cause Alzheimer's disease. However, these fears have largely been discounted.

Other factors

Because of the difference in their chromosomal make-up, people with Down's syndrome who live into their 50s and 60s are at particular risk of developing Alzheimer's disease.

People who have had severe head or whiplash injuries also appear to be at increased risk of developing dementia. Boxers who receive continual blows to the head are at risk too.

Research has also shown that people who smoke, and those who have high blood pressure, high cholesterol levels or diabetes, are at increased risk of developing Alzheimer's. You can help reduce your risk by not smoking, eating a healthy balanced diet and having regular checks for blood pressure and cholesterol from middle age. Maintaining a healthy weight and leading an active lifestyle combining physical, social and mental activity will also help.

Getting a diagnosis

If you are concerned about your own health, or the health of someone close to you, it is important to seek help from a GP. An early diagnosis will have a number of benefits including the opportunity to plan for the future and access treatment, advice and support.

There is no straightforward test for Alzheimer's disease or for any other cause of dementia. A diagnosis is usually made by excluding other causes which present similar symptoms. The GP will need to rule out conditions such as infections, vitamin deficiency, thyroid problems, depression and the side-effects of medication.

Specialists

The GP may ask a specialist for help in carrying out a diagnosis. The specialist may be an old-age psychiatrist, a neurologist, a physician in geriatric medicine or a general psychiatrist. Who the person sees will depend on their age, how physically able they are and how well services are developed in the local area.

Tests

The person being tested will usually be given a blood test and a full physical examination to rule out or identify any other medical problems. The person's memory will be assessed, initially with questions about recent events and past memories. Their memory and thinking skills may also be assessed in detail by a psychologist. A brain scan may be carried out to give some clues about the changes taking place in the person's brain. There are a number of different types of scan, including computerised tomography (CT) and magnetic resonance imaging (MRI).

Treatment

There is currently no cure for Alzheimer's disease. However, drug treatments are available that can temporarily alleviate some symptoms or slow down their progression in some people.

People with Alzheimer's have been shown to have a shortage of the chemical acetylcholine in their brains. The drugs Aricept, Exelon and Reminyl (trade names for the drugs donepezil hydrochloride, rivastigmine and galantamine) work by maintaining existing supplies of acetylcholine. As of March 2011, these drugs are recommended as an option for people in the mild-to-moderate stages of Alzheimer's disease. Please refer to the National Institute for Health and Clinical Excellence (NICE) website for guidance (see Useful organisations at the end of this factsheet). Side-effects are usually minor but may include diarrhoea, nausea, insomnia, fatigue and loss of appetite.

A drug called Ebixa (trade name for the drug memantine) was launched in the UK in 2002. Ebixa works in a different way from the other three and is the only drug that is recommended for people in both the moderate and severe stages of Alzheimer's disease. Side-effects may include dizziness, headaches and tiredness, and – rarely – hallucinations or confusion.

These drugs are not a cure, but they may stabilise some of the symptoms of Alzheimer's disease for a limited period, typically 6–12 months or longer.

Caring for someone with dementia

Much can be done at a practical level to ensure that people with Alzheimer's live as independently as possible for as long as possible. Alzheimer's Society produces factsheets on a wide range of topics, including:

- Carers: looking after yourself (523)
- Communicating (500)
- Understanding and respecting the person with dementia (524)
- Unusual behaviour (524).

See also the details for Carers UK in Useful organisations, below.

For details of Alzheimer's Society services in your area and information about a wide range of dementia-related topics, visit our website at alzheimers.org.uk

Useful organisations

Carers UK

20 Great Dover Street

London SE1 4LX

T 0808 808 7777 (free carers' line, Wednesday and Thursday
10am–12pm and 2pm–4pm)

E info@carersuk.org

W www.carersuk.org

Provides information and advice to carers about their rights, and how to access support.

National Institute for Health and Clinical Excellence (NICE)

MidCity Place

71 High Holborn

London

WC1V 6NA

T 0845 003 7780

E nice@nice.org.uk

W www.nice.org.uk

Provides national guidance on promoting good health and preventing and treating ill health. It produces guidance on public health, health technologies, and on appropriate treatment and care of people with specific diseases and conditions within the NHS. For the most up-to-date information on Alzheimer's treatments, see their website.

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This factsheet has also been reviewed by people affected by dementia. A list of sources is available on request.



Alzheimer's Society National Dementia Helpline

England, Wales and Northern Ireland:
0300 222 11 22

9am–5pm Monday–Friday
10am–4pm Saturday–Sunday

alzheimers.org.uk

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