

Alzheimer's disease

Introduction

Alzheimer's disease is the most common cause of dementia. Dementia is a group of symptoms associated with a decline in the way your brain functions, affecting your memory and the way you behave.

In Alzheimer's disease there is a progressive loss of brain cells.

The exact cause for this is unknown. However, there are a number of things thought to increase the risk of developing the condition, including:

increasing age

a family history of the condition

previous severe head injuries

lifestyle factors and conditions associated with vascular disease

Alzheimer's disease is a progressive condition, which means that it will continue to get worse as it develops. Early symptoms include:

minor memory problems

difficulty saying the right words

These symptoms change as Alzheimer's disease develops, and it may lead to:

disorientation

personality changes

behavioural changes

There is no single test that can be used to diagnose Alzheimer's disease. Your DOCTOR will ask you questions about any problems you are experiencing and may do some tests to rule out other conditions. If

Alzheimer's disease is suspected, you may be referred to a specialist to confirm the diagnosis and organise a treatment plan.

Treating Alzheimer's disease

There is no cure for Alzheimer's disease, although medication is available that can slow down the development of the condition in some people.

As with the treatment of any type of dementia, a care plan should be arranged to provide care and support.

Who is affected

Alzheimer's disease is most common in people over 65 years of age, and affects slightly more women than men.

Dementia in people under 65 years of age, known as early-onset dementia, is less common. The risk increases with age, and people who are over 80 years of age are thought to have a one in six chance of developing the condition.

Preventing Alzheimer's disease

There are several steps you can take which may help delay the onset of dementia, such as:

quitting smoking and cutting down on alcohol

eating a healthy balanced diet

having regular health tests as you get older

staying physically fit and mentally active

Taking these steps also has other health benefits, such as lowering your risk of cardiovascular disease and improving your overall mental health.

Symptoms of Alzheimer's disease

Many of the symptoms of Alzheimer's disease are similar to those of other conditions.

The symptoms of Alzheimer's disease progress slowly over several years. However, the rate at which they progress will differ for each individual.

No two cases of Alzheimer's disease are ever the same because different people react in different ways to the condition. However, generally, there are three stages to the condition:

mild

moderate

severe

These stages are described below.

Mild Alzheimer's disease

Common symptoms of mild Alzheimer's disease include:

forgetfulness

mood swings

speech problems

These symptoms are a result of a gradual loss of brain function. The first section of the brain to start deteriorating is often the part that controls the memory and speech functions.

Moderate Alzheimer's disease

As Alzheimer's disease develops into the moderate stage, it can also cause:

disorientation

difficulty performing spatial tasks (such as judging distances or finding your way around)

problems with eyesight which could lead to poor vision, or in some cases, hallucinations (where you hear or see things that are not there)

delusions – believing things that are untrue

obsessive or repetitive behaviour

a belief that you have done or experienced something that never happened

disturbed sleep

incontinence – where you unintentionally pass urine (urinary incontinence) or stools (faecal or bowel incontinence)

During the moderate stage, you may have difficulty remembering very recent things. Problems with language and speech could also start to develop at this stage. This can make you feel frustrated and depressed, leading to mood swings.

Severe Alzheimer's disease

Someone with severe Alzheimer's disease may seem very disorientated and is likely to experience hallucinations and delusions. They may think that they can smell, see or hear things that are not there, or believe that someone has stolen from them or attacked them when they have not. This can be distressing for friends and family, as well as for the person with Alzheimer's disease.

The hallucinations and delusions are often worse at night, and the person with Alzheimer's disease may start to become violent, demanding, and suspicious of those around them.

As Alzheimer's disease becomes severe, it can also cause a number of other symptoms such as:

dysphagia (difficulty swallowing)

difficulty changing position or moving from place to place without assistance

weight loss or a loss of appetite

increased vulnerability to infection

complete loss of short-term and long-term memory

It is important to note that infections or medication can sometimes be responsible for an increase in symptoms of disorientation or disturbed behaviour. People with any stage of Alzheimer's disease with symptoms that rapidly increase should be investigated to rule out these causes.

During the severe stage of Alzheimer's disease, people often start to neglect their personal hygiene. It is at this stage that most people with the condition will need to have full-time care because they will be able to do very little on their own.

Life expectancy

Alzheimer's disease affects a person's ability to look after themselves when they are unwell, so another health condition can develop rapidly if left untreated. A person with Alzheimer's may also be unable to tell someone if they feel unwell or uncomfortable.

Alzheimer's disease can shorten life-expectancy. This is often caused by those affected developing another condition, such as pneumonia (inflammation of the lungs), as a result of having Alzheimer's disease. In many cases, Alzheimer's disease may not be the actual cause of death, but it can be a contributing factor.

Causes of Alzheimer's disease

Alzheimer's disease is caused by parts of the brain wasting away (atrophy), which damages the structure of the brain and how it works.

It is not known exactly what causes this process to begin, but people with Alzheimer's disease have been found to have abnormal amounts of protein (amyloid plaques) and fibres (tau tangles) in the brain.

These reduce the effectiveness of healthy neurons (nerve cells that carry messages to and from the brain), gradually destroying them.

Over time, this damage spreads to other areas of the brain, such as the grey matter (responsible for processing thoughts) and the hippocampus (responsible for memory).

Risk factors

Although it is still unknown what causes the deterioration of brain cells, there are several factors that are known to affect the development of Alzheimer's disease. These are described in more detail below.

Age

Age is the greatest factor in the development of Alzheimer's disease. The likelihood of developing the condition doubles every five years after you reach 65 years of age. However, it is not just older people who are at risk of developing Alzheimer's disease.

Family history

Genetic factors contribute to the risk of developing Alzheimer's disease. Though in most cases, if you have a close family member with the condition, your risk of developing it is only slightly increased.

However, in a few families, Alzheimer's disease is caused by the inheritance of a single gene, and the risks are much greater. If several of your family members over the generations have developed dementia, it may be appropriate to seek genetic advice and counselling.

The Alzheimer's Society website has more information about genetics and dementia.

Down's syndrome

People with Down's syndrome are at a higher risk of developing Alzheimer's disease.

This is because people with Down's syndrome have an extra copy of chromosome 21, which codes for a protein involved in the cause of Alzheimer's disease. Therefore, people with Down's syndrome produce more abnormal protein, which could contribute to developing Alzheimer's disease.

Whiplash and head injuries

People who have had a severe head injury, or severe whiplash, (a neck injury caused by a sudden movement of the head forwards, backwards or sideways) have been found to be at a higher risk of developing Alzheimer's disease.

Vascular disease

Research shows that several lifestyle factors and conditions associated with vascular disease can increase the risk of Alzheimer's disease.

These include:

smoking

obesity

diabetes

high blood pressure

high cholesterol

You can help reduce your risk by quitting smoking, eating a healthy balanced diet and having regular health tests as you get older. It is important to keep as active as possible both mentally and physically to help reduce the risk of Alzheimer's disease.

Diagnosing Alzheimer's disease

Progression of Alzheimer's disease

Although Alzheimer's disease is considered to be a fatal disease, the actual cause of death is usually another illness, such as pneumonia (inflammation of the lungs).

On average, people with Alzheimer's disease die around five years after first experiencing symptoms. However, the rate at which the condition progresses varies between individuals. For example, after someone is diagnosed with Alzheimer's disease, they could live for up to another 20 years.

Visit your DOCTOR if you are worried about your health and think that you or someone close to you may have Alzheimer's disease.

The DOCTOR will want to know about any new or worsening problems that you have noticed, such as:

forgetfulness

speech problems

changes in your behaviour

difficulty with everyday activities

Similar conditions

Alzheimer's disease can be a difficult condition to diagnose because the symptoms can be similar to those of other health conditions. For example, the symptoms of Alzheimer's disease may be confused with:

a vitamin deficiency – where there is not enough of one of the vitamins that your body needs to function

thyroid problems – your thyroid gland is in your neck and produces hormones (powerful chemicals)

an infection

anxiety

a brain tumour – a growth of cells in your brain

depression

Tests

There is no simple, reliable test for diagnosing Alzheimer's disease, so the diagnosis is usually based on ruling out other conditions. You may have blood tests and a physical examination to rule out other medical conditions that could be causing your symptoms.

If your DOCTOR suspects Alzheimer's disease, you may also be given a brain scan, which will look for changes in your brain. This could be:

a computerised tomography (CT) scan – where several X-rays of your brain are taken at slightly different angles, and a computer is used to put the images together

a magnetic resonance imaging (MRI) scan – where a strong magnetic field and radio waves are used to produce detailed images of the inside of your brain

For more information about the different tests that you might have, read how dementia is diagnosed.

Referral

Your DOCTOR may refer you to a specialist to help with the diagnosis. For example, you may be referred to:

a clinical psychologist – a healthcare professional who specialises in the assessment and treatment of mental health conditions

a psychiatrist – a qualified medical doctor who has further training in treating mental health conditions

a neurologist – a specialist in treating conditions that affect the nervous system (the brain and spinal cord)

Your specialist may carry out some tests to assess your memory and thinking skills. One example is explained below.

Screening questionnaires

A screening questionnaire may sometimes be used to help assess the severity of Alzheimer's disease. These cannot provide a diagnosis on their own but may help as part of a full individual assessment to help determine the treatment you should receive.

Confirmed diagnosis

It may take several appointments with your DOCTOR and specialist before a diagnosis of Alzheimer's disease can be confirmed.

If you are diagnosed with Alzheimer's disease, your DOCTOR or specialist may recommend that the diagnosis is shared with your family or your carers. This should only be done with your permission.

Treating Alzheimer's disease

Practical tips

If you have Alzheimer's disease, you may find it useful to:

keep a diary and write down things that you want to remember

pin a weekly timetable to the wall

put your keys in an obvious place, such as in a large bowl in your living room

have a daily newspaper delivered to remind you of the date and day

put labels on cupboards and drawers

keep useful telephone numbers by the phone

write yourself reminders: for example, put a note on the front door to remind you to take your keys with you if you go out

programme people's names and numbers into your telephone

set the alarm on your watch to act as a reminder

install safety devices, such as gas detectors and smoke alarms, throughout your home

There is currently no cure for Alzheimer's disease, but there are medications available on prescription that can help delay the condition's development.

Treatment for Alzheimer's disease also involves creating a care plan. This identifies the type of assistance that you might need, and focuses on ways of providing this support.

Medication

Medications that may be prescribed for Alzheimer's disease include:

donepezil (brand name Aricept)

galantamine (brand name Reminyl)

rivastigmine (brand name Exelon)

memantine (brand name Ebixa)

Whether these medications are used will depend on the severity of your Alzheimer's disease.

Donepezil, galantamine and rivastigmine (AChE inhibitors) can be prescribed for people with mild to moderate Alzheimer's disease. Memantine may be prescribed for people with moderate Alzheimer's who cannot take AChE inhibitors or for those with severe Alzheimer's disease.

Medication should be prescribed by specialists such as:

psychiatrists, including those specialising in learning disabilities

neurologists

physicians specialising in the care of older people

If you are caring for someone with Alzheimer's disease, your views should be taken into account when prescribing medication and also at regular assessments. These assessments take place to ensure the medication is having a worthwhile effect.

Side effects

Donepezil, galantamine and rivastigmine (AChE inhibitors) can cause side effects including:

nausea (feeling sick)

vomiting

diarrhoea

headache

fatigue (extreme tiredness)

insomnia (difficulty getting to sleep or staying asleep)

muscle cramps (when your muscles suddenly shorten and cause pain)

For more information about the possible side effects of a particular medication, refer to the patient information leaflet that comes with your medication, or see medicines information.

Dementia

Alzheimer's disease is the most common form of dementia. Dementia is a syndrome (a group of symptoms) that is associated with an ongoing decline in mental abilities. The treatment for Alzheimer's disease will follow the same pattern as treatment for dementia.

If you have been diagnosed with any other conditions as well as Alzheimer's disease, for example, depression or incontinence (when you unintentionally pass urine or stools), these may be treated separately.

Care assessment

If you have been diagnosed with Alzheimer's disease, your future health and social care needs will be assessed and a care plan will be drawn up. This will be coordinated by:

healthcare professionals, such as your DOCTOR or psychiatrist
social care services, which is normally your local council working in conjunction with the NHS

As part of your care assessment your functional capacity will be assessed. This involves identifying areas where you may need some assistance with your day-to-day activities. For example, areas that may be assessed include:

whether you can drive safely

whether you can wash, dress and feed yourself

whether you have a support network, such as family and friends

whether you need any financial assistance

Following the care assessment, a care plan can be drawn up to arrange support for any areas where you may need to have some help.

Support

The healthcare professionals who are treating you will aim to keep you living as independently as possible. Support can be provided in many different ways. For example:

grab bars and handrails can be added around your home, for example, to help you to get in and out of the bath

an occupational therapist can identify problem areas in your everyday life, such as dressing yourself, and help you to work out practical solutions

cognitive stimulation programmes can be arranged – these involve taking part in activities and exercises to improve your memory, problem-solving skills and language ability

Preventing Alzheimer's disease

As the exact cause of Alzheimer's disease is still unknown, there is no way to prevent the condition. However, there are some steps that you can take which may help to delay the onset of dementia.

For example, you can help to prevent vascular dementia, as well as cardiovascular diseases such as stroke and heart attacks, by:

quitting smoking

avoid drinking large amounts of alcohol

eating a healthy balanced diet, including at least five portions of fruit and vegetables every day

exercising for at least 150 minutes (2 hours and 30 minutes) every week, doing moderate-intensity aerobic activity (such as cycling or fast walking) as this will improve both your physical and mental health

make sure your blood pressure is checked and controlled through regular health tests

if you have diabetes, make sure you keep to the diet and take and medicines

Staying mentally active

There is some evidence suggesting that rates of dementia are lower in people who remain as mentally, physically, and socially active as possible throughout their lives, and also among those who enjoy a wide range of different activities and hobbies.

Some activities that may reduce the risk of developing dementia include:

reading

writing for pleasure

learning foreign languages

playing musical instruments

taking part in adult education courses

playing tennis

playing golf

swimming

group sports, such as bowling

walking

There is no evidence that playing 'brain training' computer games reduces the risk of dementia.

Future research

Research into Alzheimer's disease is continuing, and as more is revealed about the condition, other ways to treat or prevent it may be found.

However, research does not always produce successful results.