

Dementia Information

What is dementia?

Dementia is a number of different diseases. The term is used for conditions that can affect the brain leading to a range of symptoms, in particular problems with memory, thinking and problem solving

How many people have dementia in the UK?

There are 850,000 people living with dementia in the UK, with that number predicted to rise to over 1.1 million in the next decade.

Early onset dementia refers to patients aged under 65 at diagnosis. In the UK approximately 42,000 people aged under 65 have dementia

In the population aged over 65 years, 7.1% (1 in 14) have dementia, the number rising with age such that aged 65-69, approximately 1.7% have dementia, compared to 20% of those aged 85-89.

What are the symptoms of dementia?

Although memory loss is a common symptom of dementia, memory loss on its own does not mean a person has dementia.

Other symptoms include difficulties with problem solving, language and emotional control as well as personality changes and behavioural problems.

What types of dementia are there?

There are many different types of dementia, although some are far more common than others. Some examples are:

- [Alzheimer's disease \(AD\)](#)
- [Vascular dementia](#)
- Dementia with Lewy bodies
- Frontotemporal dementia
- [Chronic traumatic encephalopathy \(CTE\)](#)
- Creutzfeldt-Jakob disease (CJD)

What risk factors are there for dementia?

In most cases, it is not possible to identify why someone has developed dementia. However, a small number of factors have been identified that can influence a person's risk of developing dementia.

- **Age** is the strongest risk factor for dementia. While an unusual diagnosis in younger people, around 1 in 50 of those aged 65 to 70 have some form of dementia, with that number rising to 1 in 5 in people aged over 80.
- **Gender** can influence risk of dementia, with women slightly more likely to develop dementia than men.
- **Genetic** studies have identified a small number of genes that can alter a person's risk of developing dementia. One example is the apolipoprotein E (APOE) gene, which can alter a person's risk of developing [Alzheimer's disease](#) and [vascular](#) dementia.
- **Medical problems** such as heart disease and high blood pressure can increase risk of developing dementia, in particular [vascular](#) dementia. Dementia risk is also increased in some other conditions, including Down's syndrome, chronic kidney disease and multiple sclerosis.

- **Traumatic brain injury (TBI; head injury)** is recognised as the strongest environmental risk factor for dementia. In particular, a form of dementia called [chronic traumatic encephalopathy \(CTE\)](#) is increasingly recognised in people exposed to repetitive TBI, including retired boxers, footballers and rugby players.
- **Lifestyle factors** including diet, exercise, smoking and alcohol are all recognised to influence risk of dementia, particularly through their effects to increase risk of heart and vascular disease. A healthy diet, regular exercise, not-smoking and alcohol in moderation are accepted as ways to limit dementia risk.

How is dementia diagnosed?

Diagnosing someone with dementia can be very difficult as early in the disease the symptoms can be very subtle and can also be symptoms of lots of other more common conditions.

Often family members might notice symptoms before the patient does, such as a change in personality or forgetfulness, which can be very helpful to doctors trying to make a diagnosis

There is no single, simple diagnostic test for dementia, and often making a diagnosis of dementia can take time and several visits to a GP or hospital and a wide range of different tests before the diagnosis can be made.

Numerous different investigations can help in making the diagnosis of dementia, and ruling out other conditions that can mimic dementia. These can include memory tests and tests of brain function, physical examination, blood tests and specialist brain scans such as CT or MRI scans.

What is the prognosis for someone with dementia?

Although there are many different types of dementia, unfortunately all types result in a progressive damage to the brain. As such, over time, a person's ability to care for themselves will be affected as they develop increasing problems with memory, communication and thinking.

Alzheimer's disease

Alzheimer's disease (AD) is the most common form of dementia, and accounts for around 60% of dementia diagnoses in the UK.

In AD abnormal proteins build up in the brain, often referred to as 'plaques' and 'tangles', connections between brain cells are lost, chemical messengers (neurotransmitters) in the brain are reduced and there is loss of brain tissue.

These processes are progressive and so, over time, more and more functions of the brain become impaired and increasing symptoms develop.

There are many different symptoms that patients with AD might report, but generally they can be very mild to begin with. Often the earliest symptom of AD is problems with memory, such as misplacing or losing things, forgetting names or recent events and so on.

As the disease develops, other brain functions can be impaired such as language, concentration and problem solving. Mood can also be affected, with patients occasionally becoming anxious and irritable.

Over time, as the disease progresses, problems with memory, communication and problem solving can progress and, in advanced disease, activities such as eating and walking can become difficult, with many patients eventually requiring assistance with all activities of daily living.

Vascular dementia

Vascular dementia is the second commonest form of dementia in the UK, responsible for approximately 17% of cases.

In this form of dementia the symptoms develop as a result of the damage to the brain because of problems with its blood supply. This can occur when the blood supply to a part of the brain is blocked, resulting in a stroke, or when there is disease of the small blood vessels in the brain, leading to reduced blood flow and damage to brain tissue.

The symptoms of vascular dementia can be varied, and can depend on the cause of the vascular disease and the region of brain affected. When arising after a stroke, the symptoms can develop rapidly. Whereas when the small blood vessels are involved, symptoms can be slower to develop.

Although memory problems can occur in vascular dementia, unlike Alzheimer's disease, memory problems are not often the earliest symptom in vascular dementia. Other problems such as problem solving, concentration and language can be present in early stage vascular dementia.

Over time, symptoms can progress and develop, often described as progressing in a 'step-like' manner in stroke associated dementia, each 'step' or stroke event producing a sudden worsening of symptoms.

As vascular dementia progresses, unusual behaviours such as agitation and aggression can develop and sleep disturbance can occur. In advanced disease symptoms can progress with increasing difficulties in walking and eating independently and, often, patients require assistance with all activities of daily living.

Chronic traumatic encephalopathy

Chronic traumatic encephalopathy (CTE) is a progressive degenerative brain disease increasingly recognised in people exposed to brain injury, in particular former athletes exposed to repetitive brain injury, including concussion.

Originally described in former boxers and described as 'dementia pugilistica' or 'punch drunk syndrome', the pathology has now been recognised in former American footballers, association footballers (soccer), rugby players and military personnel (among other groups).

Thus far, the condition has only been identified in people exposed to brain injury. However, as so few cases have been recognised, many of the other factors that will combine with brain injury to increase this risk are unknown, including what proportion of people exposed to head injury might develop CTE and the level of exposure required to increase risk.

Symptoms of CTE are yet to be clearly defined, but early in the disease course these include mood disturbance (including depression and suicidality), personality and behavioural changes (such as aggression) and a degree of memory loss. Problems with balance and gait can also be reported. In addition, a small proportion of patients with CTE develop symptoms and signs of motor neuron disease.

As the condition progresses, these symptoms progress and, ultimately, patients may require full care with activities of daily living.

At the moment, CTE can only be diagnosed after examination of a patient's brain at post-mortem where the brain may be small and show signs of previous injury (rarely). Many cases will also have a characteristic defect in the midline structures known as 'cavum septum pellucidum', which can be visible in appropriate brain scans in life.

However, while these changes that can be seen with the naked eye might suggest CTE, to confirm the diagnosis tissue sections from the brain must be examined under a microscope by a specialist neuropathologist using techniques to reveal abnormal deposition of a protein called tau.

At present, awareness and understanding of CTE is low and, undoubtedly, cases of CTE are under-recognised, with patients given an alternative diagnosis, such as Alzheimer's or vascular dementia or, perhaps, motor neuron disease.

In addition, as very few post-mortems are performed on dementia patients in which a full story of brain injury exposure is known, in particular through sports participation, few pathologically confirmed cases have been recognised.