The Dementia Dossier

Here is the A-Z of dementia. Dementia is a collective term used to describe various symptoms of cognitive decline, such as forgetfulness. It is a symptom of several underlying diseases and brain disorders. See what types of dementia there are, the symptoms, the causes, what to expect and treatment. This report was published in Medical News Today.

Dementia is not a single disease in itself, but a general term to describe symptoms of impairment in memory, communication, and thinking.

While the likelihood of having dementia increases with age, it is not a normal part of ageing.

An analysis of the most recent census estimates that 4.7-million people aged 65 years or older in the United States were living with Alzheimer's disease in 2010. The Alzheimer's Association estimates that:

- Just over a tenth of people aged 65 years or more have Alzheimer's disease.
- This proportion rises to about a third of people aged 85 and older.
- Alzheimer's accounts for 60-80% of all cases of dementia.

This article discusses the potential causes of dementia, the various types, and any available treatments.

Fast facts on dementia

- There are an estimated 47.5 million dementia sufferers worldwide.
- One new case of dementia is diagnosed every 4 seconds.
- Dementia mostly affects older people but is not a normal part of ageing.

Dementia symptoms include memory loss, disorientation, and mood changes.

A person with dementia may show any of the symptoms listed below, mostly due to memory loss.

Some symptoms they may notice themselves, others may only be noticed by caregivers or healthcare workers.

The signs used to compile this list are published by the *American Academy of Family Physicians (AAFP) in the journal American Family Physician.*

Possible symptoms of dementia

- **Recent memory loss** – a sign of this might be asking the same question repeatedly.
- **Difficulty completing familiar tasks** – for example, making a drink or cooking a meal.
- **Problems communicating** – difficulty with language; forgetting simple words or using the wrong ones.
- **Disorientation** – getting lost on a previously familiar street, for example.
- **Problems with abstract thinking** – for instance, dealing with money.
- **Misplacing things** – forgetting the location of everyday items such as keys, or wallets, for example.
- **Mood changes** – sudden and unexplained changes in outlook or disposition.
- **Personality changes** – perhaps becoming irritable, suspicious, or fearful.
- **Loss of initiative** – showing less interest in starting something or going somewhere.

As the patient ages, late-stage dementia symptoms tend to worsen.

Dementia stages

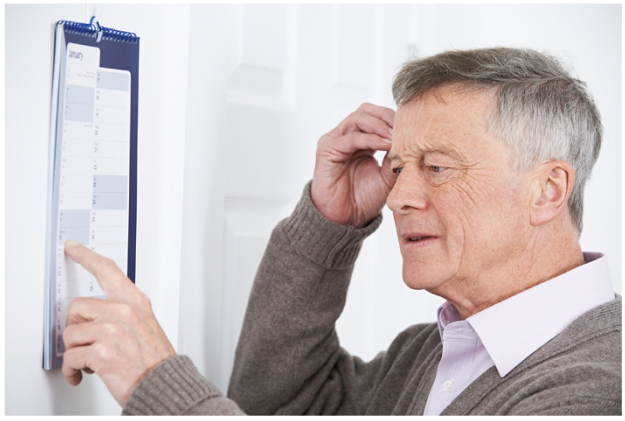
Sometimes, dementia is roughly split into four stages:

- **Mild cognitive impairment:** characterised by general forgetfulness. This affects many people as they age but it only progresses to dementia for some.
- **Mild dementia:** people with mild dementia will experience cognitive impairments that occasionally impact their daily life. Symptoms include memory loss, confusion, personality changes, getting lost, and difficulty in planning and carrying out tasks.
- **Moderate dementia:** daily life becomes more challenging, and the individual may need more help. Symptoms are similar to mild dementia but increased. Individuals may need help getting dressed and combing their hair. They may also show significant changes in personality; for instance, becoming suspicious or agitated for no reason. There are also likely to be sleep disturbances.
- **Severe dementia:** at this stage, symptoms have worsened considerably. There may be a loss of ability to communicate, and the individual might need full-time care. Simple tasks, such as sitting and holding one's head up become impossible. Bladder control may be lost.

Dementia types

There are several types of dementia, including:

- Alzheimer's disease is characterized by "plaques" between the dying cells in the brain and "tangles" within the cells (both are due to protein abnormalities). The brain tissue in a person with Alzheimer's has progressively fewer nerve cells and connections, and the total brain size shrinks.
- Dementia with Lewy bodies is a neurodegenerative condition linked to abnormal structures in the brain. The brain changes involve a protein called alpha-synuclein.
- Mixed dementia refers to a diagnosis of two or three types occurring together. For instance, a person may show both Alzheimer's disease and vascular dementia at the same time.
- Parkinson's disease is also marked by the presence of Lewy bodies. Although Parkinson's is often considered a disorder of movement, it can also lead to dementia symptoms.



- Huntington's disease is characterized by specific types of uncontrolled movements but also includes dementia.

Other disorders leading to symptoms of dementia include:

- Frontotemporal dementia also known as Pick's disease.
- Normal pressure hydrocephalus when excess cerebrospinal fluid accumulates in the brain.
- Posterior cortical atrophy resembles changes seen in Alzheimer's disease but in a different part of the brain.
- Down syndrome increases the likelihood of young-onset Alzheimer's.

Early signs

Early signs of dementia can include:

- Changes in short-term memory.
- Changes in mood.
- Trouble finding the right words.
- Apathy.
- Confusion.

- Being repetitive.
- Finds it hard to follow a storyline.
- Trouble completing everyday tasks.
- Poor sense of direction.
- Difficulty adapting to changes.

Dementia causes

Dementias can be caused by brain cell death, and neurodegenerative disease – progressive brain cell death that happens over time – is associated with most dementias.

However, it is not known if the dementia causes the brain cell death, or the brain cell death causes the dementia.

But, as well as progressive brain cell death, like that seen in Alzheimer's disease, dementia can be caused by a head injury, a stroke, or a brain tumour, among other causes.

Vascular dementia (also called multi-infarct dementia) – resulting from brain cell death caused by conditions such as cerebrovascular disease, for example, stroke. This prevents normal blood flow, depriving brain cells of oxygen.

Injury – post-traumatic dementia is directly related to brain cell death caused by injury.

Some types of traumatic brain injury – particularly if repetitive, such as those received by sports players – have been linked to certain dementias appearing later in life. Evidence is weak, however, that a single brain injury raises the likelihood of having a degenerative dementia such as Alzheimer's disease.

Dementia can also be caused by:

1. Prion diseases – for instance, CJD (Creutzfeldt-Jakob disease).
2. HIV infection – how the virus damages brain cells is not certain, but it is known to occur.
3. Reversible factors – some dementias can be treated by reversing the effects of underlying causes, including medication interactions, depression, vitamin deficiencies, and thyroid abnormalities.

Diagnosing dementia

The first step in testing memory performance and cognitive health involves standard questions and tasks.

Research has shown that dementia cannot be reliably diagnosed without using the standard tests below, completing them fully, and recording all the answers; however, diagnosis also takes account of other factors.

Cognitive dementia tests

Today's cognitive dementia tests are widely used and have been verified as a reliable way of indicating dementia. They have changed little since being established in the early 1970s. The abbreviated mental test score has 10 questions, which include:

- What is your age?
- What is the time, to the nearest hour?
- What is the year?
- What is your date of birth?

Each correct answer gets one point; scoring six points or fewer suggests cognitive impairment.

The General Practitioner Assessment of Cognition (GPCOG) test includes an added element for recording the observations of relatives and caregivers.

Designed for doctors, this sort of test may be the first formal assessment of a person's mental ability.

The second part of the test probes someone close to the patient and includes six questions to find out whether the patient has:

- become less able to remember recent events or conversations.
- begun struggling to find the right words or using inappropriate ones.
- found difficulty managing money or medications.
- needed more help with transport (without the reason being, for example, injury).

If the test does suggest memory loss, standard investigations are then recommended, including routine blood tests and a CT brain scan.

Clinical tests will identify, or rule out, treatable causes of memory loss and help to narrow down potential causes, such as Alzheimer's disease.

The mini-mental state examination (MMSE) is a cognitive test which measures:

- Orientation to time and place.
- Word recall.
- Language abilities.
- Attention and calculation.
- Visuospatial skills.

The MMSE is used to help diagnose dementia caused by Alzheimer's disease and also to rate its severity and whether drug treatment is needed.

Dementia treatments

Dementia is not a normal part of aging.

Brain cell death cannot be reversed, so there is no known cure for degenerative dementia.

Management of disorders such as Alzheimer's disease is instead focused on providing care and treating symptoms rather than their underlying cause.

If dementia symptoms are due to a reversible, non-degenerative cause, however, treatment may be possible to prevent or halt further brain tissue damage.

Examples include injury, medication effects, and vitamin deficiency.

Symptoms of Alzheimer's disease can be reduced by some medications. There are four drugs, called cholinesterase inhibitors, approved for use in the U.S.:

- Donepezil (brand name Aricept).
- Galantamine (Reminyl).
- Rivastigmine (Exelon).
- Tacrine (Cognex).

A different kind of drug, memantine (Namenda), an NMDA receptor antagonist, may also be used, alone or in combination with a cholinesterase inhibitor.

Cholinesterase inhibitors can also help with the behavioural elements of Parkinson's disease.

"Brain training" may help improve cognitive functioning and help deal with forgetfulness in the early stages of Alzheimer's. This might involve the use of mnemonics and other memory aids such as computerised recall devices.

Prevention of dementia

Certain risk factors are known to be associated with dementia. However, age is the biggest predictor. Other risk factors include:

- Smoking and alcohol use.
- Atherosclerosis (cardiovascular disease causing the arteries to narrow).

- High levels of “bad” cholesterol (low-density lipoprotein).
- Above-average blood levels of homocysteine (a type of amino acid).
- Diabetes.
- Mild cognitive impairment can sometimes, but not always, lead to dementia.