Alzheimer’s disease
Straightforward information
The guide
In simple terms
Alzheimer’s disease

Causes
A malfunction in the brain.
Biggest risk factors:
- Age
- Psychological problems
- Depression
- Lack of sleep
- Excessive alcohol consumption
- Excess weight
- Smoking
- Vascular disorders

Symptoms
- Increasing memory lapses
- Orientation problems
- Perception and speech disorders
- Mood swings
- Permanent need for assistance
- etc.

Drug therapy
The objective: to alleviate the symptoms and treat any accompanying conditions
The most important groups of active substances are:
- Anti-dementia drugs
- Antidepressants
- Neuroleptics

Non-drug therapy
- Cognitive methods
- Emotion-oriented and identity-oriented methods
- Speech therapy
- Occupational therapy
- Physical therapy
- Physiotherapy
- Art therapies
- Behavioural therapy

Tips for daily life
- Diet
- Social contact and aids
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Important note for readers

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Dear reader,

We all forget things from time to time. And not everyone whose memory declines with age has dementia or Alzheimer’s disease.

So when does Alzheimer’s disease start? Many medical histories start with slight forgetfulness. As time goes by, memory and orientation ability usually worsen. Later on, patients have great difficulty in recognising their relatives or friends - in the worst case scenario, they are unable to do so at all. In the final stage, they are no longer able to communicate in a meaningful manner and have to be cared for.

Numerous drug and non-drug therapies help to delay Alzheimer’s disease progression. The earlier therapy is started, the better.

Please talk to your doctor or pharmacist if you have any other questions.

We wish you good health.

The 1 A Pharma Team

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What is Alzheimer’s disease?

Alzheimer’s disease is a condition that affects the brain. It mainly occurs in the elderly. More women than men get Alzheimer’s disease. Alzheimer’s disease increasingly impairs the sufferer’s ability to concentrate, attention span, sense of orientation, and, above all, memory and cognitive ability. There comes a time when those suffering from the condition are no longer able to manage their day-to-day lives independently.

Alzheimer’s disease - a form of dementia

Many people equate Alzheimer’s disease with dementia. However, the term Alzheimer’s refers to only one specific form of the many possible types of dementia. Two-thirds of all dementia patients have Alzheimer’s disease. This makes Alzheimer’s disease the most common cause of dementia in the elderly.

In the context of Germany, this means that, according to the German Alzheimer Association, there are 1.6 million dementia patients living in the country. Two-thirds of these, i.e. about one million, have Alzheimer’s disease.
Alzheimer’s disease. Each year, around 300,000 people in Germany develop dementia.

There are more than 50 known types of dementia. They can be subdivided into primary and secondary dementia. Secondary dementia is the result of another pre-existing disorder, such as a brain injury or alcohol abuse.

In all its forms, those affected lose the ability to think and remember as time goes by. For this reason, the disease impacts their day-to-day lives and those of their relatives. However, there are sometimes stark differences between the various forms as they progress.

**Alzheimer’s disease – not a normal sign of ageing**

Not everyone who forgets an appointment or misplaces their keys necessarily has Alzheimer’s disease. Minor memory lapses are part of the process of getting older. Learning or remembering new things can be more difficult in old age than before.

Particular illnesses or health issues are often the cause of memory problems. Even side effects of medications, a vitamin B12 deficiency or liver or kidney dysfunction can – in the worse case scenario – lead to dementia. Stress, anxiety disorders or depression often influence cognitive and memory functions. Only an experienced doctor can make a confirmed diagnosis of Alzheimer’s disease.

Cognitive abilities can be mildly impaired in elderly people. This sometimes leads to memory problems. Medical professionals talk about “mild cognitive impairment”. The symptoms are not as serious as in Alzheimer’s disease. Those affected are still able to manage their day-to-day tasks by themselves. However, they frequently misplace items and forget important appointments. In addition, they often have problems expressing themselves verbally. The risk of the affected person developing Alzheimer’s disease is higher than in healthy people of the same age.
What are the causes of Alzheimer’s disease?

Alzheimer’s disease patients have a malfunction in the brain. The nerve cells no longer communicate in the same way as in healthy people. Later on, the nerve cells even die off. The precise causes are not yet known. Scientists are carrying out research into the causes.

What is certain is that two different proteins are deposited in the brain in Alzheimer’s disease. This was discovered by the physician Dr Alois Alzheimer in 1906. With Alzheimer’s disease, the body is unable to break down a particular protein (amyloid) without any problems. This leads to the formation of substances called “beta-amyloid proteins”. These proteins clump together between nerve cells. With Alzheimer’s disease, a second protein changes in a defective manner. It accumulates in the nerve cells and forms bundles of fibres known as “tau fibrils”.

The deposited protein disrupts communications between the nerve cells. The more it accumulates, the less efficiently the cells work. As the disease progresses, they die off. The result is that the brain mass starts to shrink in two specific regions. This affects memory, thinking, speech and orientation.

Ageing – the biggest risk

Ageing presents the biggest risk in terms of developing Alzheimer’s disease. Two-thirds of all dementia patients are more than 80 years of age. Few patients are under 60 years of age. Health also plays a role in this. Previous head injuries, such as a traumatic brain injury or stroke, can increase the risk of Alzheimer’s disease.

Another factor is psychological well-being. Failing to stay sufficiently mentally active or maintaining few social connections can increase the risk of Alzheimer’s disease. This risk is increased still further if someone already has a mild cognitive impairment.
What are the symptoms of Alzheimer’s disease?

Alzheimer’s disease does not progress in the same way in all sufferers. The condition develops over the course of many years, sometimes decades. In most cases, the initial symptoms become apparent from 65 years of age onwards. Younger people can be affected in rare cases. Although people with the condition may appear healthy on the outside, problems may already be occurring. The first sign is often slight forgetfulness. Patients are no longer able to remember recent events. They keep asking the same questions and have obvious problems orientating themselves. If you notice that you are experiencing increasing memory lapses, you should consult a doctor.

In the middle stage of the disease, the problems increase. The memory worsens. After a while, some patients find it difficult to recognise family members, friends and acquaintances. In addition, they frequently act strangely. For example, they might appear restless, agitated or irritated. They sometimes wander around aimlessly or display aggressive behaviour that is out of character.

Other risk factors are:

- Depression
- Lack of sleep
- Excess weight
- Vascular disorders such as diabetes or high blood pressure
- Smoking and excessive alcohol consumption might also have an adverse effect.

Genetic factors present only a very low risk. The inherited form of Alzheimer’s disease is rare and accounts for only one percent of all cases. If someone develops the disease in old age, this usually indicates that it is not an inherited form of the disease.
How is Alzheimer’s disease diagnosed?

Nowadays, the diagnosis of Alzheimer’s disease can be confirmed by a doctor. If you notice the first signs in yourself, you should consult a medical professional. The first point of call is the GP. If appropriate, he/she will consult a neurologist, a psychiatrist, or contact a memory clinic.

The first step is the consultation with the doctor. At this consultation, a medical history will be taken and any current physical and psychological symptoms will be recorded. The doctor will ask about lifestyle and other information, such as alcohol consumption. In addition, he/she will check physical functions such as eyesight and hearing or blood counts.

Cognitive and memory skills can be tested using “psychometric tests”. In these tests, the patient has to answer different questions or carry out different tasks or practical activities. This gives the doctor an insight into the patient’s personality, knowledge, abilities or experience. Medical professionals frequently use the

When the disease advances, patients are often no longer able to express themselves in a meaningful way. At this stage of Alzheimer’s disease, patients are increasingly tired and lose weight. Added to this are difficulties swallowing and a loss of control over bladder and bowel functions. In the long term, the problems can become so severe that independent living becomes impossible. Those affected are then permanently dependent on help.

The possible symptoms are:

- Problems recognising relatives
- Orientation problems
- Restlessness, rapid agitation and irritation
- Aggressive tendency, strange behaviour
- Communication problems
- Weight loss
- Difficulty swallowing
- Permanent need for assistance

| Increasing memory lapses | Tiredness | Loss of control over bladder and bowel functions |
Mini-Mental State Examination (MMSE) and the clock-drawing test. The MMSE tests particular cognitive skills, for example attention and recall, orientation, calculation and speech. This enables the severity of the disease to be determined. The clock-drawing test is suited to monitoring progression. For this test, the patient has to draw in the numbers on a clock face with the hands set to a specific time. Dementia patients have great difficulty doing this.

The typical protein deposits can be detected using imaging methods such as computed tomography (CT) and magnetic resonance imaging (MRI). By imaging the brain, other conditions can also be ruled out. Other imaging methods are not used routinely. In addition, the cerebrospinal fluid can be tested (cerebrospinal fluid diagnostics). It is taken from the bottom of the spinal cord. This allows Alzheimer’s disease to be identified very easily.

Genetic tests are of help only in the rare inherited form of the condition.

Amongst other skills, the Mini-Mental State Examination (MMSE) tests:

- Attention and recall
- Orientation
- Speech

In addition, the doctor also has access to the following techniques:

- Clock-drawing test
- CT/MRI

**Tip**

Prepare yourself for your consultation with the doctor. Write down your symptoms and medications. Take a relative or someone you trust to the doctor with you.
How can Alzheimer’s disease be treated?

There is no cure for Alzheimer’s disease. However, its progression can be delayed – especially if identified at an early stage. The symptoms can also be alleviated by targeted treatment. Close contact with a doctor is important. These can include neurologists, psychiatrists, GPs, specialists in internal medicine and geriatricians (doctors who specialise in the care of the elderly). They support not only the patient but also his or her relatives.

Drug therapy
The objective of drug therapy is primarily to alleviate the symptoms and treat any accompanying conditions. The aim is for the mental performance of patients to improve and for them to be able to cope more easily with their day-to-day lives. Various groups of active substances are available. The most important ones are:

- Anti-dementia drugs
- Antidepressants
- Neuroleptics

Anti-dementia drugs
Anti-dementia drugs are designed to help preserve the memory for as long as possible. Active substance such as donepezil, rivastigmine and galantamine belong to the group of drugs called acetylcholinesterase inhibitors. These active substances ensure that the breakdown of acetylcholine – an important signal transmitter in the nerve cell – is delayed. Mild to moderate forms of Alzheimer’s disease can be treated in this way. The possible side effects include vomiting, diarrhoea and nausea. In moderate to severe forms of the disease, doctors also use the active substance memantine, a drug known as a “glutamate antagonist”. This protects nerve cells from the inflow of too much glutamate, another important messenger substance for learning. The possible side effects of this active
substance can include headaches, restlessness and sleep disorders. All the medications require a prescription. They are available in tablet form, and in some cases as a solution or patch.

Other active substances in this group are also available for the treatment of dementia. In some cases, they alleviate symptoms. They include nootropics. The extract ginkgo biloba is produced from the leaves of the ginkgo tree. There is evidence of its effectiveness in mild to moderate dementia.

**Antidepressants**
Many patients find it very troubling when their memory worsens. This can develop into depression. It is very important for these symptoms to be treated. This is because depression can also lead to a deterioration in cognitive and memory skills. Doctors prescribe antidepressants, for example, to treat this. The medications do not work only on the depression. They can also alleviate sleep disorders, mild states of psychomotor agitation and anxiety.

**Neuroleptics**
If the patient’s behaviour changes significantly, the doctor can prescribe drugs called “neuroleptics”. They are mainly designed to alleviate accompanying symptoms. These include sleep disorders, increased aggression and delusions. In dementia, neuroleptics are for short-term use only. The doctor should regularly check whether it is really necessary for them to be taken.

**Non-drug therapy**
In addition to drug therapy, non-drug therapy is also important. It can help Alzheimer’s disease patients to cope more easily with their day-to-day lives. Non-drug therapy can also lead to an improvement in abnormal behaviour as well as mental performance.

The right type of treatment depends on the disease stage and the personal needs of the patient. Different methods can be combined in a meaningful manner. The important thing is not to overburden the patient.
Cognitive methods
These include training in reality orientation. Using specific tools, this training stimulates the sense of orientation of people with dementia. This is usually impaired at an early stage. The aim of memory training is to preserve and stimulate the patient’s mental abilities: memory, thinking, concentration and attention. The exercises are generally combined with movement. This increases their success.

Emotion-oriented and identity-oriented methods
The most important of these methods is self-preservation therapy. Its objective is to cement memories and skills. This strengthens the patient’s self-worth and sense of identity. The relatives have an important role to play. Through “validation”, in the context of care, they learn to view the dementia patient holistically. The relatives accept that the patient is living in his/her own world. As a result, they take seriously even behaviour that appears very strange to outsiders and make no attempt to correct it.

Speech therapy
It often becomes increasingly difficult for people with Alzheimer’s disease to speak and to communicate with their environment. Only with difficulty do they find the right words, express things and understand what is said. This is where speech therapy comes in. It also helps with swallowing problems. Speech therapists often get relatives and caregivers involved.

Occupational therapy
The aim of occupational therapy is to help Alzheimer’s disease patients to cope with their day-to-day lives as independently as possible. They learn how to take care of their personal hygiene or get dressed. They also practise structuring their daily routine or using memory aids. Occupational therapy can also be useful in cases where the disease has already progressed. It may stimulate the patient’s body awareness and motor skills.
Art therapies
Art therapies can stimulate Alzheimer’s disease patients to remember and to express their feelings. In addition, they make it possible for them to express their creativity. But the pure pleasure in designing something can also be a goal of art therapy.

One form is music therapy, which can be helpful particularly in the advanced stage of the disease. It involves listening, singing and playing. Pieces of music from the past often provide orientation. This makes it possible to get through even to patients who are barely able to speak any more. Drawing, painting and designing even strengthen the patients’ self-confidence. This is because they can show off their own work to other people.

Physiotherapy
Physiotherapy is a form of psychotherapy. In particular, it addresses thinking and behaviour. Above all, it is helpful to patients at an early disease stage - especially if they feel restless. They like to move around a lot. Physiotherapy enables them to do so in safety and prevents them from falling. It helps to preserve and improve strength, coordination and endurance - and therefore physical performance overall.

Physical therapy
A particular form of physical therapy is basal stimulation. This means the stimulation of basal (innate) senses. It relates to all the senses: sight, taste, hearing, smell and touch. These are impaired, particularly in the advanced stage. Snoezelen (multi-sensory) rooms enable patients to experience sounds, smells and light in a relaxed atmosphere. In addition, the patients can touch different surfaces of objects. In this way, Snoezelen rooms stimulate the different senses. This form of therapy is suitable for patients at any stage of the disease.

Physiotherapy
are also depressed. This form of treatment often works with rewards following desired behaviours such as eating or getting dressed independently. The therapist also trains the relatives in the techniques.

**Tips for daily life**
In addition, every patient can independently contribute to alleviating symptoms - alongside drug and non-drug therapies. Friends and relatives have an important role to play.

**Social contact and aids**
Patients at an early stage of the disease are often still able to maintain their day-to-day routines. They remain physically active and maintain social contacts. Relatives and friends help the patients with this. They tell them about what is happening at home and in the world. But they also help to jog the patient’s memory, for example using aids. This might be a big calendar or a list of day-to-day activities. Hints regarding simple safety precautions (“Turn the light off”) and descriptions of household appliances, for example the coffee machine, are beneficial.

**Diet**
According to recent studies, a Mediterranean diet may reduce the risk of developing Alzheimer’s disease. This includes fruit, vegetables, pulses, grains, olive oil and saltwater fish as well as a moderate amount of dairy products. Red meat and red wine should be on the menu only in moderation.

**Sport and exercise**
The results of more and more studies conclude that physical activity is also good for the brain. Go for walks. Take part in easy sports.
Where can I get help?

Alzheimer Forschung Initiative e. V.
Kreuzstraße 34 • 40210 Düsseldorf
Tel.: 0211 862066-0
0800 2004001 (free of charge)
info@alzheimer-forschung.de
www.alzheimer-forschung.de

Alzheimer Forschung Initiative e. V. (AFI, Alzheimer’s Disease Research Initiative) is a charitable organisation. It supports Alzheimer’s disease research by raising money. In addition, it provides patients as well as the public with information about Alzheimer’s disease.

Deutsche Alzheimer Gesellschaft e. V.
Friedrichstraße 236 • 10969 Berlin
Tel.: 030 2593795-14
01803-171017 (€0.09 per minute from a landline)
info@deutsche-alzheimer.de
www.deutsche-alzheimer.de

The German Alzheimer’s Association and its member societies are self-help organisations. They work throughout Germany to improve the situation for dementia patients and their families. The Alzheimer’s hotline answers questions about dementia and Alzheimer’s disease.

Deutsche Gesellschaft für Neurologie
Reinhardtstr. 27 C • 10117 Berlin
Tel.: 030 53143793-0
info@dgn.org • www.dgn.org

The German Neurological Society provides information online regarding typical neurological and psychiatric diagnoses such as Alzheimer’s disease.

Bundesministerium für Familie, Senioren, Frauen und Jugend
www.wegweiser-demenz.de

The federal ministry’s website provides clear and comprehensive information about dementia and Alzheimer’s disease. It contains helpful information for patients and relatives.