

Dear Reader

Your physician has diagnosed you with **ADHD** (Attention **D**eficit **H**yperactivity **D**isorder). For a long time, ADHD was considered a childhood disorder by both public and experts. It has been recognised only in recent years that ADHD symptoms can persist into adulthood. Therefore, some adults find coping with everyday life extremely difficult, which causes a lot of personal suffering.

This guide does not replace a medical diagnosis and treatment. It is intended as an aid and designed to inform you about the following aspects of ADHD in adulthood:

- **Typical symptoms**
- **Impact on everyday life**
- **Causes**
- **Therapy options.**

Each new topic is introduced with **a short summary**. It helps you decide whether or not the section is relevant to you. You can obtain more in-depth information by following **>> Links**. Issues are illustrated with **personal examples**.

ADHD in adulthood – What exactly is it?

In recent years, it has increasingly been recognised that Attention Deficit Hyperactivity Disorder (ADHD) also occurs in adulthood. This has been demonstrated by, for example, long-term studies where children with ADHD were followed up into adulthood. In adults, too, ADHD leads to considerable difficulties in coping with everyday life, loss of performance, problems in social relationships and personal suffering.

Two ADHD types are differentiated in adulthood:

1. ADHD Inattentive Type (Example 1)

in which an individual predominantly has issues with attention and concentration.

2. ADHD Combined Type (Example 2)

in which an individual has attention and concentration deficit associated with hyperactivity and impulsivity.

Example 1:

Linda B. (44 years old): "I find it difficult to take care of the daily routines. The house is always a big mess. I often don't know where to begin. I start many activities but never finish anything. At work I'm often too slow and have to ask for advice because I can't concentrate on everything. I often think I'm not as good as others. Ever since I was a child, I've felt as if I can't live up to expectations. Even in school I was thought of as a dreamer."

Example 2:

Marc H. (23 years old): "I have always been a fidget, but nobody gave it a thought. As a child I was constantly told that I should make more effort. At school I always just scraped through. I never really found the inner calm for learning. Girlfriends also didn't tolerate my carelessness and the mood swings for long. Now I am very satisfied with my job, which requires a lot of movement and does not include detailed tasks."

How is ADHD recognised in adulthood?

Typical symptoms of ADHD include attention disorders, hyperactivity and impulsivity, which manifest in different ways in children and adults. Often the symptoms change with age. For example, **reduction in motoric hyperactivity** usually occurs at puberty. In adulthood, it is less pronounced and may manifest as inner restlessness. Many patients with ADHD learn to better cope with their **impulsivity** with age. **However, the attention deficit remains unchanged.** They are usually considered the most compromising symptoms by adults. The core symptoms and other accompanying symptoms of ADHD are explained in detail below.

The 3 core symptoms

1. Attention deficit

Attention and concentration deficits manifest as:

- Difficulty concentrating on matters that are essential and blocking out other, less important aspects.
- Difficulty maintaining concentration over a longer period without wandering off in thought.
- Increased distractibility.
- Difficulty performing tasks purposefully and efficiently.

Michel T. (33 years old): "My thoughts run off in all directions. I can only concentrate on something if it really interests me. I get agitated easily. I often change from one activity to another without finishing anything. I often get side-tracked. The outcome of my work is often difficult to predict. I make many mistakes due to carelessness in my job. I have to read the same page over and over again, because I haven't taken in what I just read. In conversations, I often only catch half of what was said. I often make appointments and then forget them. I keep misplacing things and then have to search for them. I am often late, although I really don't want to be."

2. Motoric hyperactivity

This refers to an increased need to move, for example:

- Increased motoric activity, e.g. tapping one's feet.
- Inability to sit still for extended periods.
- Uneasiness or irritability where physical inactivity is required.
- Continuous need to do something and an inability to be calm.

Patrick L. (23 years old):

"I find it difficult to sit still for long. I'm constantly on a high. I feel most at ease when I can move. It is difficult for me to calm down in the evenings. I like exciting activities. I'm always looking for a kick. I like fast driving. I enjoy high speed."

3. Impulsivity

The ability to control one's own actions is reduced. The first inner impulse may be given in to immediately without prior consideration of the consequences. The difficulty in delaying or suppressing one's action may lead to spontaneous, often thoughtless reactions such as:

- unconsidered utterances
- hasty decisions
- thoughtless actions.

Melanie B. (43 years old): "I often alienate other people through thoughtless comments. I find it very difficult to wait for anything. Others tell me I am impatient. I often make promises without first reflecting whether I am able to keep them. Everything has to happen here and now. I spend far too much money because I often buy something on the spur of the moment if I like it. I have been told I speak or act without thinking first. I always make gut decisions. I virtually never plan anything."

These three core symptoms are often also accompanied by **disorganisation** and **emotional symptoms**. Rapid mood swings, reduced control over one's feelings and stress intolerance are typical.

(>>Typical accompanying disorders in ADHD).



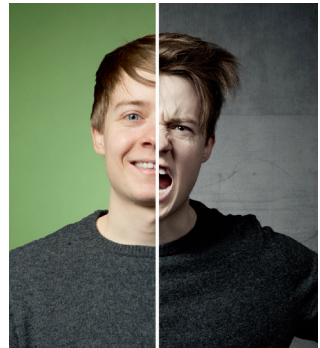
Emotional Symptoms

Rapid mood swings

The mood can alternate between neutral, downhearted and slightly euphoric within a short period of time, even one hour. The changes are generally triggered by external factors, are difficult to influence and feel burdensome.

Reduced control over one's feelings

Controlling and expressing one's feelings – especially irritability – may be difficult. This leads to unpredictable, often fierce, outbursts of rage even for trivial reasons, leading to conflicts with people close to you.



Reduced stress tolerance

Even regular everyday challenges create a feeling of being out of one's depth. The sense of feeling unable to cope may lead to psychological pressure and inner tension.

What impact does ADHD have on everyday life?

ADHD can lead to following problems, for example:

- **Reduced performance**
- **Compromised ability to drive**
- **Difficulties in social relationships**
- **Low self-esteem**
- **Avoidance behaviour.**

Reduced performance

School and education

Many people with ADHD fail to achieve their full potential at school. ADHD is associated with an increased incidence of having to repeat a year at school or not receiving a school leaving qualification, having difficulties with studying and being expelled.

Persons with ADHD often report that whilst their comprehensive school years were completed without any major problems, the subsequent secondary school education and the associated greater demands in studies and increased complexity of the tasks often lead to scholastic problems.

Employment

A too slow or error-prone way of working often leads to considerable problems at work, potentially resulting in dismissal or voluntary resignation. It is common for individuals with ADHD to choose or end up in jobs for which they are overqualified. Self-employment can be an alternative, because it allows individuals to work (at least to some extent) at their own pace.

Compromised ability to drive

According to studies, individuals with ADHD are especially accident-prone in road traffic and also have more traffic violations, such as running a red light or speeding. Many also describe a general reluctance to take unknown routes, as concentrating on driving whilst navigating in unfamiliar surroundings is too much for them.

Difficulties in social relationships

Relationships

The incidence of divorce and conflict within relationships is higher in individuals with ADHD. Impulsivity and unpredictable behaviour (>> **Problems with self-control**), such as sudden outbursts of rage, carry a high potential for conflicts and problems in relationships. It is not uncommon for the partner to also be perceived as unreliable and disinterested due to forgetfulness and failing to keep promises.



Parent role

Only a few scientific studies have analysed the consequences of ADHD on parenting performance. They show that **mothers or fathers with ADHD**, who themselves have difficulties in organising their everyday lives, often also find it hard to establish and implement firm rules for their children. Their parenting style can also be impulsive and unpredictable.

Susanne S. (34 years old): "Sometimes, in the middle of the bedtime story, I jump up and run from the nursery to the washing machine because it just occurred to me that I still have to do the laundry."



This is often complicated by another problem: It is common that one of both parents or one or **more children have ADHD**. This may lead to a **multitude of problems** in managing the home and daily life as well as controlling impulsive behaviour and outburst of rage. This often puts a strain on the whole family.

If you suspect that either you or your child/children have ADHD and you want to know more, consult a physician.

Low self-esteem and avoidance behaviour

Low self-esteem

During life, everyone forms basic assumptions about themselves and their own abilities and weaknesses. The life and learning process of those afflicted with ADHD are often characterised by repeated blunders and **experiences of failure** despite sincere efforts. This often leads to **negative expectations** regarding their own abilities, a kind of a **“failure attitude”**. Therefore, people with ADHD often see themselves as inadequate and less valuable than others, and their self-esteem may be low.

Avoidance behaviour

A failure attitude can lead to avoidance behaviour. **When an individual has no self-esteem**, they **do not even attempt tasks** that feel unpleasant or impossible. Avoidance and failure to cope with the requirements of daily life often limit an individual's success in everyday life.



People with ADHD have special strengths

The special way in which people with ADHD think and process sensory inputs endows them with very special strengths.

They are often creative and imaginative, sensitive and caring, charming, likeable and thoroughly honest.

In critical situations and when total commitment is required, people with ADHD often stay calm and perform well. This can also be the case if something especially interests or fascinates them.

A major element of **the therapy given to an individual with ADHD** includes **identifying one's own strengths and using them to one's advantage.**



Typical accompanying disorders in ADHD

ADHD is associated with an increased risk of other psychiatric conditions. Up to 80% of adults with ADHD suffer from one or more additional psychiatric illnesses. These include:

- Depression
- Addictions
- Social phobias
- Insomnia.

Depression

As many as half of all patients with ADHD also suffer from depression – a severe worsening of mood lasting longer than 14 days – during their lives. This may manifest as increased irritability or tearfulness. A lack of motivation is also a common symptom. Typical symptoms include weakness and a lack of energy as well as a lack of appetite. Since depression – like ADHD itself – is associated with difficulties with concentration, **ADHD symptoms and concentration problems** are often more severe in phases of depression.



Addictions

Patients with ADHD have a three to four times higher risk of addictive disorders. The most common one is the excessive use of cannabis and alcohol to calm oneself down.



Abuse and addiction can also occur with all known addictive substances. In addition to the risks associated with addictive disorders, regular use of cannabis or other addictive substances may **lead to further deterioration of the ability to concentrate, slow down mental functions and cause apathy.**

Social phobias

Social phobia is **characterised by a very pronounced fear of being judged negatively by other people.** Patients with social phobia try to avoid situations in which they run the risk of critical evaluation by others. These situations may include eating in public, giving a speech or presentation or even just initiating a conversation with another person.

Avoiding such situations can lead to a greatly restricted sphere of activity and individuals suffering from the phobia can often only bring themselves to enter into familiar situations.

Since their life is often characterised by a history of failure, as well as issues with self-esteem, individuals with ADHD frequently display symptoms of social anxiety. It is not uncommon for such symptoms to reach the severity of a “social phobia”.

Insomnia

ADHD is frequently associated with insomnia. The predominant symptoms include difficulty calming down and falling asleep in the evening, **troubled and restless sleep and tiredness during the day.**

Initial studies have shown that pharmaceutical therapy in ADHD results in improved sleep quality. Should this not be the case with you, the cause of your insomnia should be investigated.



What are the causes of ADHD?

Today, we know that ADHD is a neurobiological disorder. An evaluation of more than 100 studies has shown the incidence of ADHD in childhood to be about 5% worldwide. Furthermore, studies that followed children with ADHD into adulthood have shown that ADHD persists into adulthood in around 60% of children. Several studies in the adult population have found ADHD in about 3% of the persons followed up.

The following have been suggested as possible causes of ADHD:

- **High hereditary (genetic) predisposition**
- **Environmental factors**
- **Changes in the structure and functioning of certain areas of the brain**
- **Impairments in certain attention and self-control abilities.**

Genetic causes

The causes of ADHD are primarily genetic, i.e. hereditary. Available research findings indicate that several individual genes contribute to causing ADHD. Current research suggests that the existence of a single “ADHD gene” is highly unlikely. The pronounced hereditary nature of ADHD also means that if one family member is affected, it is very likely that other family members also have ADHD.

First-degree relatives (mother, father and children) have **three to five times higher likelihood of** having ADHD as well.

Environmental factors

In addition to genetic factors, several environmental factors are known to be associated with an increased risk of ADHD. They include

- Premature birth
- Complications in delivery
- Drug or nicotine consumption by the mother during pregnancy.

At present, it is assumed that social factors, such as the parenting style, parent-child-relationship or family problems, e.g. resulting from parental drug abuse, affect the development of ADHD and coping with symptoms.

Altered brain structure and functioning

Modern imaging techniques such as Magnetic Resonance Imaging (MRI) or Computed Tomography (CT) make it possible to image the structure of the brain and certain brain functions. In ADHD, **changes** are observed, in particular, **in those areas of the brain that play a significant role in behaviour control and attention processes**.

Neuropsychology

Neuropsychological models describe **the underlying disorders in information processing in ADHD**. These disorders of brain functions **affect** a variety of **attention, performance and self-control methods**, collectively known as the executive functions. The term “executive function” refers to the brain’s ability to process information, which in turn influences how an individual controls one’s impulses and adjusts one’s own behaviour to suit each situation.



Attention deficit

Impaired attention performance

All or some of the following attention performance disorders may be compromised in patients with ADHD.

Focused attention

In a narrower sense, concentration, or the ability to target attention in a purposeful and focused manner to stimulus, such as a text, a conversational partner or driving. A reduced ability to focus attention or to concentrate is associated with greater sensitivity to external stimuli.

Sustained attention

The ability to focus attention upon content matter or a stimulus over a longer period, e.g. to listen to a lecture for 20 minutes, without wandering off in thought or losing concentration.

Divided attention

The ability to focus attention upon two sources of stimulus at the same time, e.g. driving while carrying on a conversation with the passenger.

Change in the focus of attention

The ability to purposefully, and in a manner appropriate to the situation, withdraw the focus of attention from one stimulus and direct it towards another.

Problems with self-control

The collective term “executive functions” means **all information processing activities in the brain**, which control personal behaviour. These processes assess whether to react to a situation or stimulus – and if so, what action should be taken.

A critical requirement for successful executive functions is **impulse control**, the ability not to immediately surrender to an initial impulse, but first to assess it intellectually before reacting to it.

Measurable **disorders** of executive functions are typically present, in particular, in individuals with ADHD of the combined type and pronounced impulsive symptoms. In neuropsychological performance tests, they are **identifiable by rash, uncontrolled reactions** and wrong answers.

Diagnosing ADHD

How is the diagnosis made?

ADHD is a clinical diagnosis made by a physician based on a **detailed clinical examination**. Psychological tests or standardised symptom checklists can help confirm the clinical examination by a physician, but they do not replace it. There is no specific procedure for testing for ADHD.

Clinical examination

An important aspect of the clinical examination is establishing the onset and course of the ADHD symptoms and the obstacles encountered in everyday life due to the symptoms (>> What impact does ADHD have on everyday life?).

Think about the following questions:

- **When did the concentration difficulties, impulsivity and hyperactivity start?**

Are they constantly present or have there been any changes, such as a decrease in hyperactivity?

- **Which areas of life are most affected by the ADHD symptoms?**

For example: education and work, social relationships or managing everyday life?

- **Do you suffer from other psychiatric illnesses?**

It is important to rule out other psychiatric illnesses associated with symptoms that resemble ADHD (>> Typical accompanying disorders in ADHD). However, this is also necessary due to the high incidence of additional psychiatric illnesses that may accompany ADHD.

Additional diagnostic methods

Physical examination

Physical causes of the symptoms should also be examined. Common examinations include the evaluation of thyroid function, exclusion of epilepsy and establishing whether certain regular medications could cause concentration disorders.



Talking to family and friends

Talking to one's spouse and important people from one's childhood can provide significant information on the **extent of the symptoms**.

Usually, childhood symptoms can no longer be recalled in detail, and therefore comprehensive school reports that contain behavioural descriptions or equivalent documents can also be helpful. These can provide diagnostic information about concentration disorders or hyperactive behaviour present in childhood.

Neuropsychological examination

This examination can be performed to objectively demonstrate the disorders of attention or impulse control reported in the **clinical assessment (>> What are the causes of ADHD?; >> Neuropsychology)**. However, it is not an absolutely essential diagnostic activity. Neuropsychological tests can be performed to assess the general level of cognitive performance (intelligence) as well as different forms of attentiveness and executive functions. Brief concentration tests are less relevant, since they often produce normal results. This is because under certain circumstances, individuals with ADHD can produce quite normal short-term attentiveness results.



Treating ADHD

What treatment options are there?

For the treatment of ADHD in adulthood, **pharmaceutical and psychotherapeutic treatment options** are available, which can be used separately or in combination. The decision to choose pharmaceutical and/or psychotherapeutic treatment is generally made in a consultation with the treating physician.

Many patients desire the fastest possible relief of symptoms because of severe psychological stress or difficult life situations, for example, due to impaired performance and concentration at work. These patients are likely candidates for pharmaceutical therapy, as this often provides a rapid reduction in symptoms (**>> Pharmaceutical therapy**).

If the patient refuses pharmaceutical therapy, psychotherapeutic treatment specific to the disorder is an alternative. For these patients, the achievable behavioural changes and development of strategies for symptom management are longer-term objectives (**>>Psychotherapy**).

ADHD symptoms often improve considerably with pharmaceutical therapy, although this impact only occasionally transforms into more successful management of everyday life. Pharmaceutical therapy should then be supported by psychotherapy, in which the behavioural problems are analysed and worked on.

Decisions concerning **pharmaceutical therapy** or psychotherapy should take into consideration the fact that the medications affect neurobiological disease mechanisms. Thus medications may alleviate the symptoms, in other words, improve concentration and reduce impulsivity, hyperactivity and anxiety.

Psychotherapy methods, on the other hand, have only a minimal impact on the symptoms. However, **they offer opportunities to acquire behavioural strategies for improved management of symptoms**. These include methods for planning the daily routine, using memory aids and using the available attention span optimally.



If other psychiatric illnesses exist in addition to ADHD, e.g. depression or social phobia (**>> Typical accompanying disorders in ADHD**), these must be taken into account in the treatment plan and treated appropriately with medication or psychotherapy.

Pharmaceutical therapy

What medications are available?

ADHD is treated with medications that modify the interaction of **certain chemical transmitters in the brain (neurotransmitters)**. These medications change/ increase the concentration and duration of the impact of the transmitters in the brain, namely dopamine and noradrenaline. Below you will find more information of medications with adult ADHD indication.



Methylphenidate

Methylphenidate primarily causes an increase in the concentration of dopamine in the brain by inhibiting dopamine reuptake into the presynaptic brain cells.

By this mechanism, dopamine remains at higher concentrations in the synaptic cleft and improves the conduction of nerve impulses from the presynaptic to the postsynaptic nerve cell.

Lisdexamfetamine

Lisdexamfetamine are central nervous system stimulant. Its effect is though to be associated with the drug's ability to inhibit the reuptake of noradrenaline and dopamine.

Atomoxetine

In the non-stimulants group, atomoxetine, a selective noradrenaline reuptake inhibitor, increases the concentration of noradrenaline and dopamine in the brain.

What must be take into account in starting phase with ADHD medication?

Before pharmaceutical therapy is initiated, a through physical examination is conducted. It is followed by a gradual dose escalation of methylphenidate (**>> Dose definition phase**). The effect of methylphenidate is monitored in the escalation phase. The full effect can be determined immediately after reaching the individual target dose.

Physical examination

The patient's status of health is determined in order to rule out the possibility of certain diseases, such as cardiac arrhythmias or elevated blood pressure. If such conditions exist, treating ADHD with medication is not possible due to possible side effects. In cases like this, it must be determined whether the physical illness can be treated first.

Moreover, the patient must not abuse narcotics or alcohol (stimulants)

Women of childbearing age

should ensure safe contraception during the medicinal treatment.

Taking ADHD medication during pregnancy is not recommended, as there is little information available on its effects on pregnant women.

If needed, discuss the matter with your physician.



Mike P. (28 years old): "I feel like I am able to concentrate much better than before in meetings. One of my main problems at work was that after meetings I often couldn't remember what had been agreed, so I had to ask my colleagues. Now I have no problem in staying on the ball during the whole meeting. It is typical of me to suddenly get side-tracked in my thoughts while listening, and I fail to catch parts of the meeting."

How well tolerated are ADHD medications?

There are a few things to keep in mind while taking ADHD medication. The following side effects may occur, but not everyone gets them:

- loss of appetite and slight weight loss
- slightly accelerated heartbeat
- slight elevation of blood pressure
- insomnia (usually depends on the time of day the medication is taken)
- increased sweating
- nausea
- headache.

After the medication is discontinued, the ADHD symptoms will return and may feel more intense than before the treatment (“rebound effect”).

How long should the therapy be continued?

The date, there is no scientific evidence as to the duration of pharmaceutical therapy in ADHD. According to expert opinions, the need for therapy should be assessed over the long term approximately once per year. Clinical experience shows that most patients want to continue pharmaceutical therapy after breaks in the treatment, because the symptoms of ADHD return unchanged without medication.

What therapeutic treatments are available?

Psychotherapy

Disorder-specific psychotherapy of ADHD in adulthood has the following objectives:

- 1. Understanding the symptoms and problem behaviour**
- 2. Learning and practising strategies for successful management of symptoms**

For example: Methods for planning the daily routine, optimal utilisation of one's attention span or control of emotions.

- 3. Eliminating obstructive and burdensome modes of behaviour and thought patterns, or increasing flexibility**

For example: Avoiding certain tasks or situations that impair one's self-esteem.

Various psychotherapeutic techniques are used in **the individual or group therapy setting**. There is research evidence of the effect of cognitive psychotherapy and cognitive behavioural therapy, either in an individual or group therapy setting. In Finland, the current problem is the small number of psychotherapists who specialise in ADHD.

Group therapy

Other, non-psychotherapy rehabilitation may help adapt to ADHD. This type of rehabilitation often takes place in a group setting, such as in support groups or adaptation training. Your physician can tell you more about the available forms of therapy and rehabilitation in your area. Additional information on rehabilitation classes is also provided by the ADHD Association in Finland and the website of the Social Insurance Institution (<http://www.kela.fi/web/en>).



Lisa G. (31 years old): “For me, the best thing about group therapy has been meeting other people with ADHD who have the same difficulties as I have. It has helped me to accept myself much more easily. I have also learnt to cope much better with my symptoms and to stop procrastinating so much.”

Is any financial support available for treatment costs?

KELA allowance is available for psychotherapy rehabilitation under certain conditions. To apply for allowance, the individual must have a doctor-patient relationship with a psychiatrist, who will assess the need for rehabilitation.

The rehabilitation classes, which are funded by KELA or Finland's Slot Machine Association, are usually free of charge to the patient.

Neuropsychiatric coaching

Neuropsychiatric coaches, or **ADHD coaches**, who have the competence to provide individual or group rehabilitation to ADHD patients, have been trained in Finland for many years. A central aspect of neuropsychological coaching is practice-oriented guidance, which aims to identify and find solutions to problem situations in the daily life.



Support for education and employment

Support for education

Currently, many educational institutions accommodate students with an ADHD diagnosis, and various forms of support may be available. Information on possible support can be obtained from the student affairs office or the student counsellor of the educational institution.



Occupational integration can present one of the greatest problems, especially for young adults with ADHD who have no formal vocational qualifications. Channels of supported employment can be found through the employment and business offices (TE Services). Individuals with ADHD who are already employed should primarily contact the occupational health service (or their treating physician) if coping at work is difficult.

Publishing information

ADHD in adulthood

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Images

Medice's proprietary image bank:

- Photos: iStockphoto