CONDITION

ADHD in children

Learn how attention-deficit/hyperactivity disorder affects children, including symptoms, diagnosis, treatment options, school support, and follow-up care.

WHAT IT IS
Childhood neurodevelopmental disorder

BODY SYSTEM
Nervous system

MAIN SYMPTOMS
Inattention, hyperactivity, impulsivity, disorganization

WHAT CAUSES IT
Genetics and brain development differences

HOW IT IS DIAGNOSED
Detailed clinical assessment across settings

MAIN TREATMENT
Behavioral support, educational changes, medicine

CAN IT BE CURED?
No, treatment manages symptoms over time

IS IT AN EMERGENCY?
Sometimes, immediate danger to child or others

LONG-TERM OUTLOOK
Symptoms may change and require ongoing care

Overview

Attention-deficit/hyperactivity disorder, or ADHD, is a condition that affects a child's attention, activity level, and ability to control impulses. It is called a neurodevelopmental disorder because symptoms begin during childhood as the brain is developing.

All children sometimes become distracted, act without thinking, or have trouble sitting still. With ADHD, these patterns are more frequent or severe than expected for the child's age. They interfere with important parts of life, such as learning, friendships, family routines, or safety.

ADHD may appear mainly as difficulty paying attention, mainly as hyperactivity and impulsivity, or as a combination of both. A child's pattern can change over time. For example, obvious physical restlessness may become less noticeable with age, while problems with organization

may continue.

ADHD is not a sign of low intelligence, laziness, poor character, or failed parenting. It can create real challenges, but children also have individual strengths. Early recognition and appropriate support can improve school participation, relationships, confidence, and daily functioning.

Symptoms

ADHD symptoms fall into two broad groups: inattention and hyperactivity-impulsivity. Symptoms must be considered in relation to the child's age and developmental level.

Signs of inattention may include:

Signs of hyperactivity or impulsivity may include:

The same behavior can have different meanings depending on the setting. A young child who runs and climbs often may be showing age-appropriate behavior. A clinician looks for a persistent pattern that is out of step with development and causes meaningful difficulty.

Some children, especially those with mainly inattentive symptoms, may not be disruptive. They may seem dreamy, slow to finish work, or disorganized. Their difficulties can be overlooked because they do not draw attention in the classroom.

ADHD often occurs alongside other concerns. These may include learning or language disorders, anxiety, depression, sleep problems, autism spectrum disorder, tic disorders, or oppositional behavior. These conditions can affect how symptoms appear and what support is needed.

- Making frequent careless mistakes or missing details
- Having difficulty staying focused during lessons, conversations, reading, or play
- Appearing not to listen when spoken to directly
- Starting tasks but having trouble completing them
- Struggling to organize schoolwork, belongings, or routines
- Avoiding or resisting tasks that require sustained mental effort
- Frequently losing homework, school supplies, clothing, or other items
- Becoming easily distracted
- Forgetting everyday responsibilities
- Fidgeting, tapping, or moving while seated

- Leaving a seat when remaining seated is expected
- Running, climbing, or feeling restless at inappropriate times
- Having difficulty playing or working quietly
- Seeming constantly active or "on the go"
- Talking excessively
- Answering before a question is finished
- Having difficulty waiting for a turn
- Interrupting conversations, games, or activities

Causes and risk factors

ADHD does not have one single cause. Research suggests that differences in brain development and function are involved. Genetics play an important role, and ADHD often runs in families. Having a close relative with ADHD increases risk, but it does not mean a child will definitely develop the condition.

Other factors associated with a higher likelihood of ADHD include premature birth, low birth weight, and certain exposures during pregnancy, such as tobacco or alcohol. A serious brain injury may occasionally produce similar symptoms or contribute to attention and behavior problems.

Family stress, inconsistent routines, poor sleep, and difficult school experiences can worsen attention or behavior. However, they are not considered simple causes of ADHD. Sugar, ordinary childhood vaccines, and watching television have not been shown to cause the disorder.

Symptoms that look like ADHD may also result from another problem. Examples include inadequate sleep, hearing or vision difficulties, anxiety, trauma, seizures, learning disorders, or medicine side effects. This is one reason a careful assessment is important.

Diagnosis

There is no blood test, brain scan, or single questionnaire that can diagnose ADHD. Diagnosis is based on a detailed assessment by a qualified healthcare professional, such as a pediatrician, family physician, child psychiatrist, psychologist, or other trained clinician.

The assessment usually includes information from the child, caregivers, and school. Standard

rating scales may help compare behavior across settings, but they do not establish the diagnosis by themselves.

Under widely used diagnostic criteria, symptoms must have persisted for at least six months. Several symptoms must have been present before age 12, and difficulties must occur in at least two settings, such as home and school. The symptoms must interfere with social, academic, or other daily functioning and not be better explained by another condition.

For children through age 16, diagnosis generally requires at least six symptoms from the inattentive group, the hyperactive-impulsive group, or both. For people age 17 and older, the threshold is generally five symptoms. A clinician determines whether these criteria apply and how severe the effects are.

An evaluation may cover:

A physical examination may help identify other causes or health issues that could affect treatment. Neuropsychological or educational testing is not required for every child, but it may be helpful when a learning disorder, intellectual disability, or complex developmental concern is suspected.

- Pregnancy, birth, developmental, medical, and family history
- School performance, classroom behavior, and learning needs
- Sleep, mood, anxiety, relationships, and family circumstances
- Current medicines and possible substance exposure
- Vision, hearing, and physical health when relevant
- Possible learning, language, developmental, or mental health conditions

Treatment and management

ADHD treatment is individualized according to the child's age, symptoms, level of impairment, health, family preferences, and school needs. Care often combines behavioral support, educational changes, and medicine.

Parent training in behavior management teaches caregivers practical ways to encourage helpful behavior and respond consistently to difficulties. Strategies may include setting clear expectations, giving brief instructions, using predictable consequences, and rewarding specific positive behaviors. This approach is particularly important for preschool-aged children.

Classroom support can reduce barriers to learning. Helpful measures may include seating that limits distractions, shorter work periods, movement breaks, written instructions, organizational

help, and regular communication between caregivers and teachers. Some children qualify for a formal school support plan or special education services, depending on local rules and individual needs.

Behavioral classroom management uses clear routines, immediate feedback, and rewards to strengthen useful behaviors. Organizational skills training may help older children plan assignments, manage time, and keep track of materials.

Medicine may be considered when symptoms cause significant impairment. Stimulant medicines, including methylphenidate- and amphetamine-based products, are commonly used and can reduce core ADHD symptoms for many children. Nonstimulant options include atomoxetine and certain extended-release medicines such as guanfacine, clonidine, or viloxazine. Availability and approval ages vary by country and product.

For preschool-aged children, expert guidelines generally recommend evidence-based parent training or classroom behavioral support before medicine. Medicine may be considered when behavioral treatment has not provided enough improvement and the child continues to have serious difficulties. School-aged children and adolescents may benefit from medicine combined with behavioral and school-based support.

Choosing a medicine is a shared decision. The clinician considers how long symptom coverage is needed, the child's ability to take the formulation, other health conditions, possible side effects, and family preferences. It may take careful adjustment and follow-up to find an effective option.

Common concerns during medication treatment include reduced appetite, sleep difficulty, stomachache, headache, irritability, and changes in blood pressure or heart rate. Some medicines can cause tiredness or dizziness. Clinicians commonly monitor height, weight, pulse, blood pressure, sleep, mood, and symptom response. Caregivers should report new tics, marked mood changes, fainting, chest symptoms, or unusual behavior.

Before prescribing, the clinician should know about heart disease, fainting, seizures, mental health conditions, and all medicines or supplements the child uses. Stimulants like methylphenidate or lisdexamfetamine are controlled medicines and should be stored securely. They should never be shared or used differently from the prescription.

Healthy routines support treatment but do not replace it. Consistent sleep, regular physical activity, nutritious meals, and predictable schedules can make daily functioning easier. Claims that restrictive diets, supplements, or unproven brain-training products cure ADHD should be approached cautiously.

Complications

Without effective support, ADHD may contribute to academic underachievement, repeated discipline, conflict at home, low self-esteem, and difficulty maintaining friendships. Impulsivity may increase the risk of accidental injuries or unsafe decisions.

Children with ADHD may also have anxiety, depression, learning disorders, disruptive behavior disorders, or sleep problems. As children get older, poorly controlled symptoms may affect driving safety and may be associated with substance-related problems. These outcomes are not inevitable. Appropriate treatment, school support, and attention to coexisting conditions can reduce difficulties.

Treatment itself can also create problems if side effects are missed or if medicine is not taken safely. Regular review helps balance benefits and harms.

Follow up

ADHD care usually continues over time. Follow-up is more frequent when treatment begins or changes. Once symptoms and side effects are stable, routine visits are still needed to review progress, growth, physical health, school functioning, and treatment goals.

Caregivers can bring teacher feedback, report cards, completed rating scales, and notes about sleep, appetite, mood, and behavior. Older children should be included in discussions in a way that fits their maturity. Their views can help identify whether treatment is helping during school, homework, activities, and friendships.

A routine appointment should be arranged if symptoms are worsening, school demands have changed, side effects are persistent, or treatment no longer seems effective. The clinician may reassess the diagnosis, look for another condition, or adjust the overall plan.

Seek prompt medical advice for fainting, a racing or irregular heartbeat, major mood or behavior changes, hallucinations, or severe medication reactions. Call emergency services for chest pain with collapse or breathing difficulty, signs of a severe allergic reaction, a suicide attempt, or immediate danger to the child or others. Suicidal thoughts or statements require urgent professional assessment, even when the child says they did not intend to act.

Treatment needs can change as a child develops. Medicine should not be stopped or changed without discussing it with the prescribing clinician. Periodic review can determine whether the current plan remains useful and whether school or behavioral supports need updating.

Sources

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