



Attention-Deficit/ Hyperactivity Disorder (ADHD):

The Basics

**National Institute
of Mental Health**

Overview

Do you find it hard to pay attention? Do you feel the need to move constantly during times when you shouldn't? Do you find yourself constantly interrupting others? If these issues are ongoing and you feel that they are negatively impacting your daily life, it could be a sign of attention-deficit/hyperactivity disorder (ADHD).

ADHD is a disorder that makes it difficult for a person to pay attention and control impulsive behaviors. He or she may also be restless and almost constantly active.

ADHD is not just a childhood disorder. Although the symptoms of ADHD begin in childhood, ADHD can continue through adolescence and adulthood. Even though hyperactivity tends to improve as a child becomes a teen, problems with inattention, disorganization, and poor impulse control often continue through the teen years and into adulthood.

What causes ADHD?

Researchers at the National Institute of Mental Health (NIMH), National Institutes of Health (NIH), and across the country are studying the causes of ADHD.

Current research suggests ADHD may be caused by interactions between genes and environmental or non-genetic factors. Like many other illnesses, a number of factors may contribute to ADHD such as:

- Genes
- Cigarette smoking, alcohol use, or drug use during pregnancy
- Exposure to environmental toxins, such as high levels of lead, at a young age
- Low birth weight
- Brain injuries

Warning Signs

People with ADHD show an ongoing pattern of three different types of symptoms:

- Difficulty paying attention (inattention)
- Being overactive (hyperactivity)
- Acting without thinking (impulsivity)

These symptoms get in the way of functioning or development. People who have ADHD have combinations of these symptoms:

- Overlook or miss details, make careless mistakes in schoolwork, at work, or during other activities
- Have problems sustaining attention in tasks or play, including conversations, lectures, or lengthy reading
- Seem to not listen when spoken to directly
- Fail to follow through on instructions, fail to finish schoolwork, chores, or duties in the workplace, or start tasks but quickly lose focus and get easily sidetracked
- Have problems organizing tasks and activities, such as doing tasks in sequence, keeping materials and belongings in order, keeping work organized, managing time, and meeting deadlines
- Avoid or dislike tasks that require sustained mental effort, such as schoolwork or homework, or for teens and older adults, preparing reports, completing forms, or reviewing lengthy papers
- Lose things necessary for tasks or activities, such as school supplies, pencils, books, tools, wallets, keys, paperwork, eyeglasses, and cell phones
- Become easily distracted by unrelated thoughts or stimuli
- Forgetful in daily activities, such as chores, errands, returning calls, and keeping appointments

Signs of hyperactivity and impulsivity may include:

- Fidgeting and squirming while seated
- Getting up and moving around in situations when staying seated is expected, such as in the classroom or in the office
- Running or dashing around or climbing in situations where it is inappropriate, or, in teens and adults, often feeling restless
- Being unable to play or engage in hobbies quietly
- Being constantly in motion or “on the go,” or acting as if “driven by a motor”
- Talking nonstop
- Blurting out an answer before a question has been completed, finishing other people’s sentences, or speaking without waiting for a turn in conversation
- Having trouble waiting his or her turn
- Interrupting or intruding on others, for example in conversations, games, or activities

Showing these signs and symptoms does not necessarily mean a person has ADHD. Many other problems, like anxiety, depression, and certain types of learning disabilities, can have similar symptoms. If you are concerned about whether you or your child might have ADHD, the first step is to talk with a health care professional to find out if the symptoms fit the diagnosis. The

diagnosis can be made by a mental health professional, like a psychiatrist or clinical psychologist, primary care provider, or pediatrician.

Treating ADHD

Although there is no cure for ADHD, currently available treatments may help reduce symptoms and improve functioning. ADHD is commonly treated with medication, education or training, therapy, or a combination of treatments.

Medication

For many people, ADHD medications reduce hyperactivity and impulsivity and improve their ability to focus, work, and learn. The first line of treatment for ADHD is stimulants.

Stimulants: Although it may seem unusual to treat ADHD with a medication that is considered a stimulant, it is effective. Many researchers think that stimulants are effective because the medication increases the brain chemical dopamine, which plays essential roles in thinking and attention.

Non-Stimulants: These medications take longer to start working than stimulants, but can also improve focus, attention, and impulsivity in a person with ADHD. Doctors may prescribe a non-stimulant if a person had bothersome

side effects from stimulants, if a stimulant was not effective, or in combination with a stimulant to increase effectiveness. Two examples of non-stimulant medications include **atomoxetine** and **guanfacine**.

Antidepressants: Although antidepressants are not approved by the U.S. Food and Drug Administration (FDA) specifically for the treatment of ADHD, antidepressants are sometimes used to treat adults with ADHD. Older antidepressants, called tricyclics, sometimes are used because they, like stimulants, affect the brain chemicals norepinephrine and dopamine.

There are many different types and brands of these medications—all with potential benefits and side effects. Sometimes several different medications or dosages must be tried before finding the one that works for a particular person. Anyone taking medications must be monitored closely and carefully by their prescribing doctor.

Call your doctor right away if you have any problems with your medicine or if you are worried that it might be doing more harm than good. Your doctor may be able to adjust the dose or change your prescription to a different one that may work better for you.

Therapy

There are different kinds of therapy that have been tried for ADHD, but research shows that therapy may not be effective in treating ADHD symptoms. However, adding therapy to an ADHD treatment plan may help patients and families better cope with daily challenges.

For Children and Teens: Parents and teachers can help children and teens with ADHD stay organized and follow directions with tools such as keeping a routine and a schedule, organizing everyday items, using homework and notebook organizers, and giving praise or rewards when rules are followed.

For Adults: A licensed mental health provider or therapist can help an adult with ADHD learn how to organize his or her life with tools such as keeping routines and breaking down large tasks into more manageable, smaller tasks.

Education and Training

Children and adults with ADHD need guidance and understanding from their parents, families, and teachers to reach their full potential and to succeed. Mental health professionals can educate the parents of a child with ADHD about the condition and how it affects a family. They can also help the child and his or her parents develop new skills, attitudes, and ways of relating to each other.

Examples include:

- **Parenting skills training** teaches parents the skills they need to encourage and reward positive behaviors in their children.
- **Stress management techniques** can benefit parents of children with ADHD by increasing their ability to deal with frustration so that they can respond calmly to their child's behavior.
- **Support groups** can help parents and families connect with others who have similar problems and concerns.

Adding behavioral therapy, counseling, and practical support can help people with ADHD and their families to better cope with everyday problems.

School-based Programs

Some schools offer special education services to children with ADHD who qualify. Educational specialists help the child, parents, and teachers make changes to classroom and homework assignments to help the child succeed. Public schools are required to offer these services for qualified children, which may be free for families living within the school district. Learn more about the Individuals with Disabilities Education Act (IDEA), visit <http://idea.ed.gov/>.

Finding Help

The National Resource Center on ADHD, a program of Children and Adults with Attention Deficit/Hyperactivity Disorder (CHADD[®]) supported by the Centers for Disease Control and Prevention (CDC), has information and many resources. You can reach this center online at www.help4adhd.org or by phone at **1-800-233-4050**. You can also visit the NIMH's Help for Mental Illness page at www.nimh.nih.gov/findhelp.

Participate in a Clinical Trial

It's your involvement that helps researchers to ultimately uncover better ways to treat, prevent, diagnose, and understand human disease. You can get involved by participating in a clinical research trial. The goal of clinical trials is to determine if a new test or treatment works and is safe. Clinical trials can also look at other aspects of care, such as improving the quality of life for people with chronic illnesses.

Researchers at the NIMH and other NIH institutes, such as the National Human Genome Research Institute, conduct research in many areas including cognition, genetics, epidemiology, brain imaging, and treatment development. The studies take place at the NIH Clinical Center in Bethesda, Maryland. If you think you

might be interested in participating in a clinical trial, you should talk to your doctor about whether to apply and identify which ones are right for you. To learn about studies on ADHD that are currently recruiting at NIMH, visit <http://www.nimh.nih.gov/joinastudy>.

To find a clinical trial near you, visit ClinicalTrials.gov. This is a searchable registry and results database of federally and privately supported clinical trials conducted in the United States and around the world. ClinicalTrials.gov gives you information about a trial's purpose, who may participate, locations, and phone numbers for more details. This information should be used in conjunction with advice from your health care provider.

Learn more about ADHD

To learn more about ADHD, visit: National Institute of Mental Health www.nimh.nih.gov

Centers for Disease Control and Prevention
<https://www.cdc.gov/ncbddd/adhd/>

MedlinePlus (National Library of Medicine)
<https://www.nlm.nih.gov/medlineplus/attentiondeficithyperactivitydisorder.html>

For More Information

For more information on conditions that affect mental health, resources, and research, go to **MentalHealth.gov** at <http://www.mentalhealth.gov>, or the NIMH website at <http://www.nimh.nih.gov>. In addition, the National Library of Medicine's MedlinePlus service has information on a wide variety of health topics, including conditions that affect mental health.

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