

Attention Deficit Hyperactivity Disorder (ADHD)

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Topic Overview

What is attention deficit hyperactivity disorder (ADHD)?

Attention deficit hyperactivity disorder (ADHD) is a condition in which a person has trouble paying attention and focusing on tasks, tends to act without thinking, and has trouble sitting still. It may begin in early childhood and can continue into adulthood. Without treatment, ADHD can cause problems at home, at school, at work, and with relationships. In the past, ADHD was called attention deficit disorder (ADD).

What causes ADHD?

The exact cause is not clear, but ADHD tends to run in families.

What are the symptoms?

The three types of ADHD symptoms include:

- **Trouble paying attention.** People with ADHD are easily distracted. They have a hard time focusing on any one task.
- **Trouble sitting still for even a short time.** This is called hyperactivity. Children with ADHD may squirm, fidget, or run around at the wrong times. Teens and adults often feel restless and fidgety. They aren't able to enjoy reading or other quiet activities.

- **Acting before thinking.** People with ADHD may talk too loud, laugh too loud, or become angrier than the situation calls for. Children may not be able to wait for their turn or to share. This makes it hard for them to play with other children. Teens and adults may make quick decisions that have a long-term impact on their lives. They may spend too much money or change jobs often.

How is ADHD diagnosed?

ADHD is often diagnosed when a child is between 6 and 12 years old. Teachers may notice symptoms in children who are in this age group.

First, the child will have tests to make sure that he or she doesn't have other problems such as learning disabilities, depression, or anxiety disorder. The doctor will use guidelines from the American Psychiatric Association to diagnose ADHD. The doctor may also look at written reports about the child's behavior. Parents, teachers, and others who have regular contact with the child prepare these reports.

How is it treated?

There is no cure for ADHD, but treatment may help control the symptoms. Treatment may include medicines and behavior therapy. Parents and other adults need to closely watch children after they begin to take medicines for ADHD. The medicines may cause side effects such as loss of appetite, headaches or stomachaches, tics or twitches, and problems sleeping. Side effects usually get better after a few weeks. If they don't, the doctor can lower the dose.

Therapy focuses on making changes in the environment to improve the child's behavior. Often, counseling and extra support at home and at school help children succeed at school and feel better about themselves.

How does ADHD affect adults?

Many adults don't realize that they have ADHD until their children are diagnosed. Then they begin to notice their own symptoms. Adults with ADHD may find it hard to focus, organize, and finish tasks. They often forget things. But they also often are very creative and curious. They love to ask questions and keep learning. Some adults with ADHD learn to manage their lives and find careers that let them use those strengths.

Health Tools

Health Tools help you make wise health decisions or take action to improve your health.

Decision Points focus on key medical care decisions that are important to many health problems.

- ADHD: Should My Child Take Medicine for ADHD?

Actionsets are designed to help people take an active role in managing a health condition.

- ADHD: Helping Your Child Get the Most From School
- ADHD: Helping Your Child Get Things Done
- Growth and Development: Helping Your Child Build Self-Esteem

Cause

The exact cause of attention deficit hyperactivity disorder (ADHD) isn't known. But it may run in families. Ongoing research is focused on finding the genes that cause a person to be likely to get ADHD.

A mother's use of cigarettes, alcohol, or other drugs during pregnancy may increase the risk for ADHD. Also, exposure to lead may cause symptoms linked with ADHD.¹

Although many parents believe that foods with sugar and food additives make their children more hyperactive, these foods haven't been shown to cause ADHD.²

Symptoms

The three types of ADHD symptoms include:

- **Trouble paying attention (inattention)**. People with ADHD are easily distracted. They have a hard time focusing on any one task.
- **Trouble sitting still for even a short time (hyperactivity)**. Children with ADHD may squirm, fidget, or run around at the wrong times. Teens and adults often feel restless and fidgety. They aren't able to enjoy reading or other quiet activities.
- **Acting before thinking (impulsivity)**. People with ADHD may talk too loud, laugh too loud, or become angrier than the situation calls for. Children may not be able to wait for their turn or to share. This makes it hard for them to play with other children. Teens and adults may make quick decisions that have a long-term impact on their lives. They may spend too much money or change jobs often.

These symptoms affect all people who have ADHD. But typical behavior varies by age.

- In preschool-age children, symptoms are often the same as normal behavior for young children.
- In children between the ages of 6 and 12, signs of ADHD are more obvious than in other age groups.
- In teens between the ages of 13 and 18, problems that began in earlier years may continue or get worse.
- Symptoms of ADHD in adults may not be as noticeable as in other age groups.

What Happens

Attention deficit hyperactivity disorder (ADHD) may be hard to identify in a young child. It can be hard to tell the difference between normal behavior and ADHD symptoms in young children.

But after a child starts school, ADHD becomes more noticeable. ADHD is most often diagnosed in children ages 6 to 12. During this time, ADHD can disrupt many aspects of a child's life. Learning, adjusting to change, sleeping, and getting along with others are all potential problem areas.

About 60 to 85 out of 100 children with ADHD still have symptoms during the teen years.³ These children may be less mature than their peers. They may lag behind in reaching milestones typical for the age group.

Teens with ADHD may also have more problems when they are driving cars. They get more speeding tickets and have serious car accidents more often. They should be watched closely by a licensed adult when they are learning to drive.

Adults with ADHD may have trouble focusing, organizing, and finishing tasks. But they are often able to adjust to the workplace better than they did in the classroom as children.

People with ADHD often have one or more other disorders. These include dyslexia, oppositional defiant disorder, conduct disorder, anxiety, and depression.

Effects on family

Raising a child who has ADHD can be a challenge. Parents must consistently watch their child. They must respond to problem behavior in the right way. If other issues are causing stress within a family (such as divorce, violence, or drug or alcohol use), it may be even harder to deal with a child who has ADHD.

Treatment can help control symptoms. It can allow a child to grow and develop normally.

What Increases Your Risk

The greatest risk factor for ADHD is having an inherited tendency for the condition. Environmental factors, such as certain parenting methods, may influence how symptoms of ADHD are expressed. But they don't cause ADHD.

When should you call your doctor?

Call a doctor if:

- Your child is showing signs of ADHD that are causing problems at home or school. These signs include inattention, impulsivity, and/or hyperactivity. Parents and teachers often notice this behavior during the child's first few years in school.
- Your child shows signs of other mental health disorders, such as depression or anxiety, that last more than a few weeks or seem to be getting worse.
- Your child is having academic or behavioral problems at school.

Ask your doctor about his or her training and experience related to ADHD. The doctor must be able to identify and distinguish behaviors that can be subtle and complicated.

Also, make sure that your doctor has enough time to evaluate you or your child.

Accurate diagnosis and successful treatment of ADHD takes repeated office visits and observations. Your doctor should also be able to coordinate between other health professionals, family members, teachers, and caregivers.

Who to see

Health professionals who can diagnose and treat attention deficit hyperactivity disorder (ADHD) with medicine include:

- Family medicine doctors.
- Pediatricians (may specialize in developmental problems).
- Psychiatrists (may specialize in adults or children and adolescents).
- Neurologists (may specialize in child or adult nervous systems).
- Nurse practitioners who specialize in psychiatry or pediatrics.

Health professionals who do not prescribe medicines but can provide behavior therapy or family counseling include:

- Psychologists. Psychologists also frequently diagnose ADHD.
- Behavioral specialists.
- Social workers.
- Psychiatric nurse specialists.
- Licensed professional counselors.
- Family therapists.

Exams and Tests

A doctor relies on a combination of exams, tests, and other information to diagnose attention deficit hyperactivity disorder (ADHD). The doctor will look at guidelines created by the American Psychiatric Association (APA). The diagnosis will be based on:

- An interview with the child.
- Medical history. The doctor will ask about the child's social, emotional, educational, and behavioral history.

- A physical exam.
- Behavior rating scales or checklists for ADHD. These are used by parents and teachers to evaluate the child's symptoms.

Before meeting with your doctor, think about at what age your child's symptoms began. You and other caregivers should record when the behavior occurs and how long it lasts. An important part of evaluation for ADHD is thinking about the kinds of problems caused by the behaviors. How much do they affect schooling and social behavior?

Tests for related problems

Your child may have verbal and written tests to find out if behavior problems are caused by other conditions with similar symptoms.

For example, children with ADHD may have a hard time learning to read, write, or do math problems. Testing for these learning disabilities will help teachers form the best plan for a child with these problems.

If you are concerned about how your child's temperament, learning skills, and behavior are developing, talk with your doctor during your next visit.

Treatment Overview

Treatment of attention deficit hyperactivity disorder (ADHD) relies on a combination of medicines and behavior therapy. Treatment with medicine depends on the age of your child. The first step is an accurate diagnosis of ADHD and an understanding of your child's strengths and weaknesses. Learning about ADHD will help you and your child's siblings better understand how to help your child.

Medicines

The following medicines may be used for ADHD:

- Your child's doctor may recommend that your child take a stimulant medicine. These medicines include amphetamine (for example, Adderall or Dexedrine) and methylphenidate (for example, Concerta, Metadate CD, or Ritalin). Stimulants improve symptoms in about 70 out of 100 children who have ADHD.¹
- If stimulant medicines have bothersome side effects or aren't effective, your child's doctor might recommend a nonstimulant medicine such as atomoxetine (Strattera), clonidine (Kapvay), or guanfacine (Intuniv). These medicines may be used alone or in combination with stimulant medicines.
- ADHD: Should My Child Take Medicine for ADHD?

Behavior therapy

Through behavior therapy, parents learn strategies, such as positive reinforcement, to

improve a child's behaviors. Children learn skills for problem solving, communication, and self-advocacy. Behavior therapy is more helpful when used with medicine than when used by itself.

Some children with ADHD also have other conditions, such as anxiety or oppositional defiant disorder. Behavior therapy can help treat some of these conditions.

Counseling may help children and adults who have ADHD recognize problem behaviors and learn ways to deal with them. For both parents and children, counseling can be a place to air frustrations and deal with stress. To learn more, see [Other Treatment](#).

There are many things you can do to help your child at home and at school. To learn more, see [Home Treatment](#).

ADHD in adults

Many adults don't realize that they have ADHD until their children are diagnosed. Then they begin to recognize their own symptoms. Some adults with ADHD learn to manage their lives and find careers in which they can use their intellectual curiosity and creativity to their advantage. But many adults have difficulties at home and work.

Like children with ADHD, adults may benefit from medicine combined with psychological support. This support includes education about the disorder, support groups and/or counseling, and skills training. Skills training may include:

- Time management training.
- Organizational techniques.
- Academic and vocational counseling.

Medicines that may be used for ADHD in adults include:

- Stimulant medicines. These medicines can help a person focus better. And they can help decrease hyperactivity and impulsivity.
- Other medicines, such as atomoxetine (Strattera), clonidine (Kapvay), and guanfacine (Intuniv). Your doctor might recommend these if stimulant medicines have bothersome side effects or aren't effective.

Certain antidepressants are sometimes also recommended. These include bupropion (for example, Wellbutrin) and tricyclics (for example, desipramine, imipramine, and nortriptyline).

What to think about

There are several myths that can get in the way of understanding ADHD. It is important to understand that ADHD is a medical problem that is best managed with treatment. Your child is more likely to control symptoms when he or she actively takes part in

treatment, such as taking medicines on time.

Prevention

There is no known way to prevent attention deficit hyperactivity disorder (ADHD). But use of cigarettes, alcohol, or other drugs during pregnancy may increase the risk for ADHD.

Home Treatment

There are many things you can do at home to help your child who has attention deficit hyperactivity disorder (ADHD)—and to help yourself.

Tips for self-care

- Take care of yourself. Caring for your own physical and mental health is an important part of helping your child. And it will help you have the energy you need to take care of your child.
- Educate yourself about ADHD. You will be better able to help your child if you understand the condition.
- An important part of behavior management is teaching your child that actions have consequences.

Tips for your child

- Help your child build self-esteem. Encourage a sense of belonging, confidence in learning, and an awareness of his or her own contributions.
- Help your child get the most out of school. Promoting school success will help your child academically, socially, and developmentally.
- Help your child get things done. Your patience, persistence, and creative thinking can help your child learn skills and accomplish tasks at home and at school.

Help at school

In the classroom, more demands are placed on children to sit still, pay attention, listen, and follow class rules. So elementary school teachers are often the first to recognize ADHD symptoms. Many times teachers advise parents to have their child tested or to see a doctor.

Most children with ADHD qualify for educational services within the public schools. If your child qualifies, you will meet with school personnel to identify goals and plan an individualized education program (IEP). This usually means that your school will try to accommodate your child's extra needs. This may be as minor as placing your child at

the front of the class. Or it may be as involved as providing classroom staff to help your child.

Your doctor will talk with you about setting realistic and measurable goals for your child's behavior at school and at home. Your child's specific problems and needs will be taken into account.

Helping your teen

Regular communication among parents, teachers, and doctors benefits a teen who has ADHD.

You'll need to stay closely involved with your teen. The teen years present many challenges, such as increased schoolwork and the need to be more attentive and organized. Making good decisions becomes especially important during these years when peer pressure, emerging sexuality, and other issues surface.

Use consequences that are meaningful to your teenager. These may include losing privileges or having increased chore assignments. Parents and teens can work together to establish reasonable, obtainable goals. And they can negotiate rewards when those goals are met.

Medications

Medicines are used to help control the symptoms of attention deficit hyperactivity disorder (ADHD): hyperactivity, impulsivity, and inattention. The American Academy of Pediatrics (AAP) guidelines recommend medicine and/or behavior therapy to treat children who have ADHD.⁴

Children should be closely watched after they start medicines. The doctor can assess whether your child is receiving the correct dose. Side effects usually decrease after a few weeks on the medicines. Or the dosage can be lowered to offset side effects.

Be sure that medicine for ADHD is taken consistently. You will also need to keep track of the effects of the medicine and communicate closely with your child's doctor.

- ADHD: Should My Child Take Medicine for ADHD?

Medicine choices

Medicines to treat ADHD include:

- Stimulants. These medicines include amphetamine (for example, Adderall or Dexedrine) and methylphenidate (for example, Concerta, Metadate CD, or Ritalin). Stimulants usually reduce hyperactivity and impulsivity and improve focus.
- Atomoxetine (Strattera). This is an approved nonstimulant medicine for children, teens, and adults.
- Clonidine (Kapvay) and guanfacine (Intuniv). These are nonstimulant medicines approved to treat aggression, inattention, and impulsivity not controlled by other ADHD medicines.
- Antidepressants. Certain antidepressants are sometimes also recommended.

Stimulant medicines

Most often, stimulant medicines are used to treat ADHD. These medicines are effective for people of all ages. But more research is needed on how adults respond. In general, stimulant medicines improve symptoms. There are often quick and dramatic improvements in behavior.

Nonstimulant medicines

If stimulant medicines have bothersome side effects or aren't effective, your child's doctor might recommend a nonstimulant medicine such as atomoxetine (Strattera), clonidine (Kapvay), or guanfacine (Intuniv). These medicines may be used alone or in combination with stimulant medicines.

What to think about

Medicines may also be used to treat other mental health conditions that often occur along with ADHD. One condition is anxiety disorders.

If your child is taking medicine for ADHD, consider:

- All of a child's behavior problems may not be controlled by medicine. And it hasn't been proved that medicine improves the long-term educational, occupational, and social functioning of a person who has ADHD.
- Stimulant medicines may be related to slower growth in children, especially in the first year of taking the medicine. But most children seem to catch up in height and weight by the time they are adults. Your doctor will keep track of your child's growth and will watch for problems.¹
- Some medicines used to treat ADHD (such as stimulants) can be abused. Make sure that your child knows not to sell or give medicine to other people. An adult should supervise the medicine.
- Some parents worry about their children becoming addicted to stimulants. Research has shown that these medicines, when taken correctly, don't cause dependence.

Other Treatment

Managing behavior

Treatment depends on the age of your child. Children ages 4 to 5 years are treated first with behavior therapy. Your child's doctor will talk to you about medicine if your child's symptoms do not improve. Children ages 6 to 11 years are treated with medicine or behavior therapy or both. Children ages 12 to 18 years are treated with medicine and usually also with behavior therapy.

Behavioral therapy helps train parents, teachers, and other adults responsible for a child who has ADHD. These programs focus on establishing routines and rules for behavior and closely watching how a child responds.

The adult consistently delivers rewards or consequences depending upon how the child complies with the rules. This type of treatment has been shown to be more effective than cognitive-behavioral therapy. Cognitive-based therapies depend more upon the child to self-direct changes in behavior. A child with ADHD isn't likely to have the skills to change his or her behavior without help and guidance from adults.

Behavioral programs most often used to help treat ADHD in a child include:

- Behavior management. Time-out and reward systems can help a child who has ADHD learn appropriate behaviors for the classroom and home. Parents learn behavior management skills during a series of 6 to 12 counseling sessions of 1 to 2 hours a week.
- Social skills training. These techniques help the child learn to be less aggressive and impulsive. Children learn to manage anger and behave in a more socially acceptable way.
- Counseling, including family therapy. All household members can benefit from learning how to deal effectively with ADHD behavior.

Behavioral intervention for adults focuses on help with organizational skills and healthy relationships.

Complementary medicine

Complementary medicine is used by some therapists and other health professionals. These therapies have not been proven effective in treating ADHD. But a person with ADHD may benefit. For example, acupuncture or biofeedback may help relieve stress and muscle tension and improve a person's overall well-being and quality of life.

If you are thinking about using complementary therapy for ADHD, be open with your doctor about the subject. He or she can help direct you to a method that is safe to use in combination with proven techniques. Only those therapies that best help control

ADHD symptoms without causing physical or emotional harm should be used.

Related Information

- Depression
- Bipolar Disorder
- Post-Traumatic Stress Disorder
- Growth and Development, Ages 6 to 10 Years
- Depression in Children and Teens
- Generalized Anxiety Disorder
- Bipolar Disorder in Children and Teens

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Credits

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