

Attention-Deficit/Hyperactivity Disorder (ADHD) in Children

What is attention-deficit/hyperactivity disorder (ADHD)?

Attention-deficit/hyperactivity disorder (ADHD) is the most common mental health problem in children. It is often called by an older name, attention deficit disorder (ADD).

Between 2% and 5% of all school-age children have ADHD. The disorder begins in the preschool years and may either continue or fade away during the teenage years. About one-third of children with ADHD also have learning problems such as a reading disability. About half of ADHD children and teenagers have behavior problems, which may include breaking rules, talking back, and hitting other children.

ADHD is 7 times more common in boys than girls. Girls are more likely to have troubles with attention and less likely to have hyperactivity.

How does it occur?

In about 70% of cases, ADHD is inherited. It runs in families, especially through the males in the family line. Research continues in an effort to find out why it occurs in those without a family history. Some factors associated with ADHD include:

- substance abuse during pregnancy
- smoking during pregnancy
- various illnesses during pregnancy
- a long and difficult labor
- the baby being short of oxygen during birth
- the umbilical cord being wrapped around the baby's neck.

Much research has looked at whether ADHD is caused by sugar or things added to foods such as preservatives and coloring. No sound evidence has connected these with ADHD. Allergies are also not a factor in causing ADHD.

People with ADHD have several small differences in their brain structure. These differences are in the front part of the brain (an area involved in self-control) and in some parts in the center of the brain.

What are the symptoms?

The symptoms of ADHD, especially hyperactivity, usually appear by age 2 or 3 and by first grade at the latest. The main symptoms are:

- **Distractibility** (trouble keeping attention on tasks). Children and teens with ADHD change activities very often, frequently not finishing what they have started. Their attention is also very easily interrupted (distracted) by noises or things they see around them.
- **Poor impulse control**, or impulsivity (having a hard time with patience and waiting). Children with this symptom often react quickly without thinking of the outcome. They also are impatient and tend to interrupt others in conversations and begin tasks without enough planning.

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- **Hyperactivity** (excessive movement). Hyperactive children are nearly always on the go. They seldom sit still, and even when sitting, they usually fidget or play with things.

Common related symptoms are:

- trouble organizing tasks and projects
- difficulty slowing down at night to get to sleep
- social problems from being aggressive, loud, or impatient in groups and conversations.

How is it diagnosed?

Your health care provider will ask about the symptoms and will observe your child's behavior for signs of ADHD. To diagnose ADHD, it must be clear that the symptoms interfere in a major way with daily life. You and others, such as your child's teachers, may be asked to complete questionnaires or rating forms about ADHD symptoms. Your child may be asked to see a psychologist or other mental health professional for tests of attention and self-control.

There are no useful physical tests such as blood tests or brain scans for diagnosing ADHD.

There are 3 forms of ADHD:

- **Combined ADHD.** All of the main symptoms are present: distractibility, poor impulse control, and hyperactivity.
- **Predominately inattentive.** Attention problems dominate. Often, there is very little hyperactivity or impulsivity. This form is especially common among girls.
- **Predominately impulsive-hyperactive** type. Poor self-control is the main problem.

How is it treated?

The treatment of ADHD may involve 3 types of treatment:

- **Learning coping skills:** Children with ADHD learn to avoid highly stimulating situations that distract and over-excite them. They should learn to study in quiet places and to take frequent breaks. In a classroom, they do best at individual desks rather than at a table with others. They also often find that background instrumental music is helpful. Children with ADHD need more structure and daily routine than most people.
- **Behavioral training:** Simple behavior programs with charts and daily rewards can be good for teaching longer attention spans and sitting still. One form of behavioral training is brainwave, or EEG, biofeedback. In this treatment, a mental health professional trains the child to maintain the brainwaves found during sustained attention and calmness. This treatment usually takes 15 to 30 sessions and is best for very motivated children and teens.
- **Medicine:** Since the 1920s, the medicines Ritalin and Dexedrine have been used. They are stimulants, and appear to stimulate the self-control areas of the brain. They do not slow a person down, but rather increase self-regulation. About 70% of children with ADHD improve with these medicines. The most common side effects are loss of appetite and trouble getting to sleep. Only daytime dosages are used until the effects on eating and sleeping are known. Sometimes, medicines are used only on school days.

Two medicines similar to Ritalin and Dexedrine are Cylert and Adderall. For many children with ADHD, Adderall seems to cause fewer side effects. When the basic medicines are not effective, certain medicines for depression can help with ADHD.

Treatments that have not been found effective include diets limiting sugar, food additives, or

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food colorings; and herbal supplements and health foods. Despite much research into this area since the 1970s, little has been found that relates diet to hyperactivity, impulsive behavior, or poor attention. It is clear that children who believe certain foods (such as sugar) will make them "hyper," do change behavior after eating that food.

Although there are claims that many health foods benefit children with ADHD, there are almost no data to back up or refute those claims.

How long do the effects last?

The symptoms of ADHD almost always last from early childhood until puberty. Between puberty and the young adult years, about half of ADHD sufferers have a major reduction in symptoms. The other half show a slight change or no change in symptoms as they grow into adulthood. Being more patient and better able to sit still are the most common improvements between late childhood and young adulthood.

What can I do to help my child?

There are many helpful strategies to lessen the effects of ADHD. These include the following:

- Do homework and studying away from the sounds of television, radio, or others talking but where adults can supervise.
- Try having your child study with low-level background sound such as white noise or instrumental music.
- Plan to have your child do homework and other tasks that require concentration in short blocks of time with breaks in between.
- Follow a very structured daily routine for basic home and school events.
- Seek a classroom for your child that has individual desks rather than one where students are seated in groups at tables or with clusters of desks.
- Develop a set of hand signals and use them rather than verbal reminders to tell your child to calm down or slow down.
- For children who have trouble slowing down at bedtime, night lights and background music are often helpful.

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