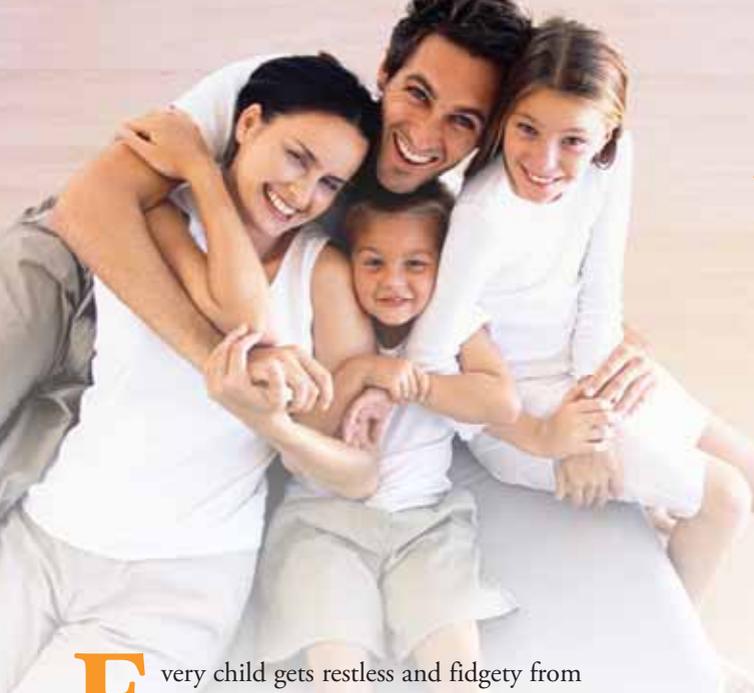




# ADHD

## Attention Deficit Hyperactivity Disorder





## What is ADHD?

Doctors call it a *neuropsychiatric disorder*. This means problems in the brain cause abnormal patterns of behavior. Symptoms of ADHD usually begin to appear at age 3 or 4 and get steadily worse. Being hyper and impulsive peaks at age 6 or 7; hyperactivity usually settles down in the teenage years, but impulsive behavior can last into adulthood. Problems paying attention peak a little later, often at age 8 or 9, and may last throughout life.

### *The 3 main types of ADHD are:*

- The **inattentive type** accounts for about **50% of all cases**.
- The **hyperactive-impulsive type** accounts for about **25% of all cases**.
- The **combined type** includes symptoms of inattention, hyperactivity, and impulsivity. It is the most obvious form of ADHD, and often includes disruptive and aggressive behavior. **About 25% of children with ADHD have the combined type.**

*(See page 4 for behaviors specific to each type of ADHD.)*

**E**very child gets restless and fidgety from time to time; in particular, boys are often bursting with energy that's hard to harness and control. It is common for kids to drift into daydreams when they should be paying attention. Many seem a bit disorganized and forgetful. Some have outbursts of temper. But attention deficit hyperactivity disorder (ADHD) is more than being jumpy or spacey. It's an important medical disorder that makes it hard for children to learn and disrupts social growth and family life.



## Traits of ADHD

The behaviors of each type of ADHD fall into three groups, each has certain symptoms:

### *Inattention*

- Being **easily distracted** and skipping from one activity to another
- Having a **hard time staying “on task”** to complete schoolwork or chores
- Having trouble listening to and following directions
- **Appearing “spacey”**
- Being **disorganized and forgetful**
- Losing things and **making careless mistakes**
- **Falling behind in school** despite normal IQ

### *Hyperactivity*

- Having **excess energy**; acting “wound up” and “always on the go”
- **Fidgeting and squirming**; jumping up and running about when it’s not appropriate
- Having **trouble with quiet activities**
- **Talking too much**
- **Needing to stay busy**, often trying to do several things at once

### *Impulsivity*

- **Being impatient** and unable to wait their turn
- **Grabbing toys from others**
- Blurting out and **interrupting others**
- **Acting before thinking**



## What Causes ADHD?

Research shows that ADHD is linked to subtle flaws in the structure and function of the brain. In many cases, inherited problems with brain chemicals called *catecholamines* are involved. Although there is no way to correct these chemical imbalances, drugs that act on these systems can often control symptoms and improve behavior. More research is underway.

## Who Gets ADHD?

ADHD is a worldwide problem that affects children and adults in all ethnic and socioeconomic groups. But, it strikes boys 2 to 4 times more often than girls.

ADHD awareness is highest in the United States. Nearly 9% of American children between ages 8 and 14 have ADHD, according to a major 2007 study. Less than half of these children had been diagnosed by their doctors. And less than one-third had received ADHD medications on a regular basis during the year before the survey.

Other studies have reported the same results. In all, over 4 million children in the U.S. have ADHD. That means in an average classroom, 1 or 2 students are likely to have ADHD.

## Other Disorders

Some children with ADHD also have other conditions that affect their behavior at school and at home. It is important to be aware of these extra problems because they need special treatment. The conditions that may accompany ADHD include:

- Learning disorders, such as dyslexia
- Mood disorders, such as depression, anxiety, and bipolar disorder
- Behavior disorders, such as oppositional defiant disorder and conduct disorder
- Other problems may include sleep disorders, Tourette's syndrome, thyroid conditions, abnormal vision or hearing, and lead poisoning



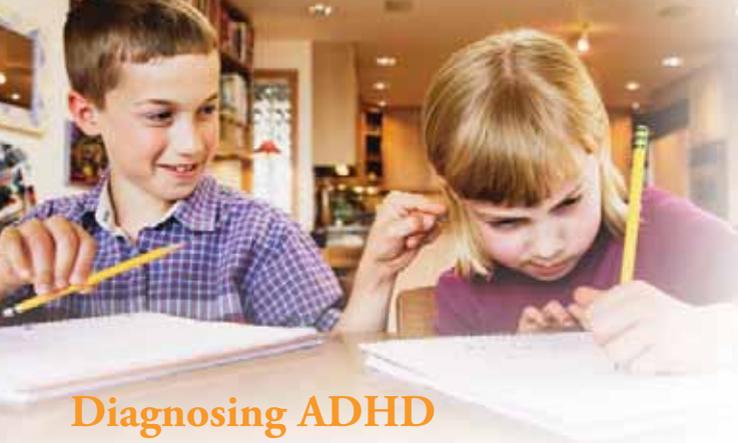
## Does My Child Have ADHD?

Since every child will be fidgety, jumpy, forgetful, disruptive, or spacey from time to time, many parents need the help of their pediatrician or family doctor to answer this question. Still, by asking yourself a few simple questions, you can decide if your child needs to be evaluated.

If you are worried about ADHD, ask yourself and your child's teachers:

- Is your child happy in school and learning at grade level?
- Is he or she making friends and getting along well with other children?
- Does your child listen to directions and complete age-appropriate tasks?
- Is your child happy at home?
- Does he or she get along well with the family?

Children who have major problems in these areas should be checked for ADHD.



## Diagnosing ADHD

In many cases, a skilled pediatrician or family doctor can diagnose ADHD and plan the best care. But in other cases, psychiatric, psychological, or neurological specialists may be helpful, especially if your doctor suspects that your child has other problems along with ADHD (see page 6). Remember, too, that your child's teachers can provide both diagnostic information and help with an educational treatment plan.

A diagnosis of ADHD depends on the presence of the symptoms listed on page 4. But for the symptoms to add up to ADHD, they must meet these standards:

- The problems must have begun before age 7
- The symptoms must be present in more than one setting, such as school and home
- The symptoms must last for at least 6 months
- The symptoms must interfere with acceptable progress in school or in social adjustment
- The symptoms must be excessive for the child's age and stage of growth

It's important to diagnose ADHD correctly because treatment can help nearly all children with the condition.

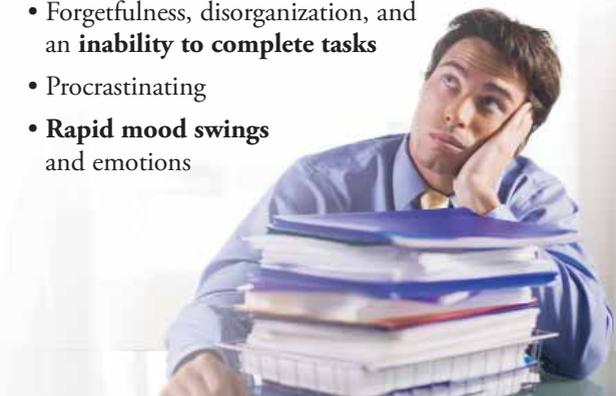
## Adult ADHD

ADHD is a long-lasting disorder. It starts in preschool and slowly gets worse until elementary school. Hyperactive symptoms often settle down by the teenage years, but inattention and impulsivity tend to persist. That means many boys and girls with ADHD may need to continue medication and other treatments during high school and even beyond.

*Hyperactive symptoms often settle down by the teenage years, but inattention and impulsivity tend to persist.*

Doctors have now begun to diagnose ADHD in adults whose problems began in childhood but were not recognized until much later. In fact, about 4% of adults in the U.S. have ADHD. Typical symptoms include:

- **Having poor focus** and being easily distracted
- **Restlessness, difficulty relaxing,** and feeling tense
- A hot temper and **acting before thinking**
- Forgetfulness, disorganization, and an **inability to complete tasks**
- Procrastinating
- **Rapid mood swings** and emotions



Adults with ADHD often have a history of not doing well during their school years and a spotty work record after school. Since other medical and psychological conditions can contribute to or mimic symptoms of ADHD, a detailed medical and psychological evaluation is needed. Many adults with ADHD respond well to the same medications used in children, but others may require different drugs. Behavioral treatments and efforts to become more organized and improve time management are also important.

*Many adults with ADHD respond well to the same medications used in children.*

## Treating ADHD

ADHD is a long-term disorder that disrupts learning, social development, and family life. While it cannot be cured, it can be treated successfully.

Treating ADHD usually requires medication. You should discuss the pros and cons of treatment for your child with your doctors. It is important to understand the possible side effects and potential benefits of medication. To get the most out of the discussion, you should provide details about the medical histories of your child and your family. This includes details about neurological disease, heart disease, and high blood pressure. To decide if medication is right, doctors should evaluate your child's overall health and possible side effect risk factors.



*Three groups of medications are approved for ADHD in children:*

*Methylphenidate* and *amphetamines* are stimulants that have been used for over 50 years. *Atomoxetine* is a newer non-stimulant.

All 3 drugs work on similar chemical pathways in the brain. Each is available in various short-, medium-, and long-acting dosages.

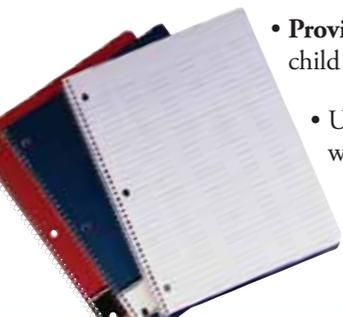
If you agree medication is right for your child, your doctors will decide which drug is best. In general, they will start with a low dose and increase it or change options if needed. Your doctors will monitor your child for both benefits and side effects. Input from families and teachers is also important.



More than 70% of children with ADHD improve with medication. Still, other treatments can also help.

**Behavioral treatments.** Psychotherapy, counseling, social skills training, support groups, and parent skills training can all be helpful. Some tips that may help include:

- **Keep to a simple daily schedule** with regular times for meals, homework, chores, TV, etc.
- **Give breaks** during long or tough activities such as reading or sitting through religious services
- **Reduce distractions**
- Limit TV watching; **promote physical games and activities**
- **Set goals** that are easy to achieve and reward your child for achieving them
- **Encourage activities** your child is likely to succeed at
- **Provide check lists** that your child can use to stay on track
- Use notebook and homework organizers



- **Organize your child's room**, putting books, toys, and clothes in their place
- Remove your child from **situations that trigger outbursts**
- When discipline is required, **use time outs**
- Stick to your rules and schedules, but **always give your child lots of support and love**

**Educational management.** Teachers and school administrators should help plan a program to help children with ADHD do well in school. Children may need extra monitoring, extra time to complete tasks, or special instructions. Children with ADHD may qualify for special education under the Individuals with Disabilities Act.



## Living with ADHD

After more than 100 years of scientific study, doctors have learned that ADHD is a common disorder that can cause serious problems in learning, social development, and family life. ADHD is most often seen in young children, but it also affects teens and even adults. Although it is a long-term problem that can't be cured, ADHD usually responds well to a program that features the careful use of medication along with behavioral, social, and educational supports. It's a good example of how teamwork between families, doctors, and educators can help children thrive.

*ADHD is most often seen in young children, but it also affects teens and even adults.*



## More Information



**Children and Adults with Attention Deficit Hyperactivity Disorder**

[www.chadd.org](http://www.chadd.org)



**National Institute of Mental Health**

[www.nimh.nih.gov](http://www.nimh.nih.gov)



**The American Academy of Child and Adolescent Psychiatry**

[www.aacap.org](http://www.aacap.org)



**The American Academy of Pediatrics**

[www.aap.org](http://www.aap.org)



**The American Academy of Family Physicians**

[www.aafp.org](http://www.aafp.org)



**Attention Deficit Disorder Association**

[www.add.org](http://www.add.org)



To learn more about ADHD,  
visit the **Pri-Med Patient  
Education Center** at  
[www.patientedu.org/adhd](http://www.patientedu.org/adhd).

*Brought to you by:*

# PR•MED Patient Education Center



HARVARD  
MEDICAL SCHOOL



## Pri-Med Patient Education Center

2127 2nd Ave North  
Fort Dodge, IA 50501

[service@patientedu.org](mailto:service@patientedu.org)

**About This Brochure:** This brochure was written by practicing physicians from Harvard Medical School. It is part of a series developed by the Pri-Med Patient Education Center and distributed in conjunction with the Medical Group Management Association.

All the information in this brochure and on the associated Web site ([www.patientedu.org](http://www.patientedu.org)) is intended for educational use only; it is not intended to provide, or be a substitute for, professional medical advice, diagnosis, or treatment. Only a physician or other qualified health care professional can provide medical advice, diagnosis, or treatment. Always consult your physician on all matters of your personal health.

Harvard Medical School, the Pri-Med Patient Education Center, and its affiliates do not endorse any products.

*Consulting Physicians:* Harvey B. Simon, MD and Anthony L. Komaroff, MD  
*Editorial Director:* Joe Rusko  
*Managing Editor:* Keith D'Oria  
*Senior Editor:* Jamie Brickwedel  
*Art Director:* Jon Nichol

© Copyright Harvard Medical School.



Printed on 10%  
post-consumer  
recycled paper.

PMPEC-PC-ADHD-001