ADD/ADHD
Information Packet

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NAMI Fact Sheet on Attention-Deficit/Hyperactivity Disorder

What is attention-deficit/hyperactivity disorder?

Attention-deficit/hyperactivity disorder (ADHD) is an illness characterized by inattention, hyperactivity, and impulsivity. The most commonly diagnosed behavior disorder in young persons, ADHD affects an estimated three percent to five percent of school-age children.

Although ADHD is usually diagnosed in childhood, it is not a disorder limited to children -- ADHD often persists into adolescence and adulthood and is frequently not diagnosed until later years.

What are the symptoms of ADHD?

There are actually three different types of ADHD, each with different symptoms: predominantly inattentive, predominantly hyperactive/impulsive, and combined.

Those with the predominantly inattentive type often:

- fail to pay close attention to details or make careless mistakes in schoolwork, work, or other activities
- have difficulty sustaining attention to tasks or leisure activities
- do not seem to listen when spoken to directly
- do not follow through on instructions and fail to finish schoolwork, chores, or duties in the workplace
- have difficulty organizing tasks and activities
- avoid, dislike, or are reluctant to engage in tasks that require sustained mental effort
- lose things necessary for tasks or activities
- are easily distracted by extraneous stimuli
- are forgetful in daily activities

Those with the predominantly hyperactive/impulsive type often:

- fidget with their hands or feet or squirm in their seat
- leave their seat in situations in which remaining seated is expected
- move excessively or feel restless during situations in which such behavior is inappropriate
- have difficulty engaging in leisure activities quietly
- are "on the go" or act as if "driven by a motor"
- talk excessively
- blurt out answers before questions have been completed
- have difficulty awaiting their turn
- interrupt or intrude on others

Those with the combined type, the most common type of ADHD, have a combination of the inattentive and hyperactive/impulsive symptoms.

What is needed to make a diagnosis of ADHD?

A diagnosis of ADHD is made when an individual displays at least six symptoms from either of the above lists, with some symptoms having started before age seven. Clear impairment in at least two settings, such as home and school or work, must also exist. Additionally, there must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.

How common is ADHD?

ADHD affects an estimated two million American children, an average of at least one child in every U.S. classroom. In general, boys with ADHD have been shown to outnumber girls with the disorder by a rate of about three to one. The combined type of ADHD is the most common in elementary school-aged boys; the predominantly inattentive type is found more often in adolescent girls.

While there is no specific data on the rates of ADHD in adults, the disorder is sometimes not diagnosed until adolescence or adulthood, and half of the children with ADHD retain symptoms of the disorder throughout their adult lives. (It is generally believed that older individuals diagnosed with ADHD have had elements of the disorder since childhood.)

What is ADD? Is it different than ADHD?

This is a question that has become increasingly difficult to answer simply. *ADHD*, or *attention-deficit/hyperactivity disorder*, is the only clinically diagnosed term for disorders characterized by inattention, hyperactivity, and impulsivity used in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorder, Fourth Edition*, the diagnostic "bible" of psychiatry. However (and this is where things get tricky), *ADD*, or *attention-deficit disorder*, is a term that has become increasingly popular among laypersons, the media, and even some professionals. Some use the term *ADD* as an umbrella term -- after all, ADHD **is** an attention-deficit disorder. Others use the term *ADD* to refer to the predominantly inattentive type of ADHD, since that type does not feature hyperactive symptoms. Lastly, some simply use the terms *ADD* and *ADHD* interchangeably. The bottom line is that when people speak of ADD or ADHD, they generally mean the same thing. However, only *ADHD* is the "official" term.

Is ADHD associated with other disorders?

Yes. In fact, symptoms like those of ADHD are often mistaken for or found occurring with other neurological, biological, and behavioral disorders. Nearly half of all children with ADHD (especially boys) tend to also have *oppositional defiant disorder*, characterized by negative, hostile, and defiant behavior. *Conduct disorder* (marked by aggression towards people and animals, destruction of property, deceitfulness or theft, and serious rule-breaking) is found to co-occur in an estimated 40 percent of children with ADHD. Approximately one-fourth of children with ADHD (mostly younger children and boys) also experience *anxiety* and *depression*. And, at least 25 percent of children with ADHD suffer from some type of *communication/learning disability*. There is additionally a correlation between *Tourette's syndrome*, a neurobiological disorder characterized by motor and vocal tics, and ADHD-only a small percentage of those with ADHD also have Tourette's, but at least half of those with Tourette's also have ADHD. Research is also beginning to show that ADHD-like symptoms are sometimes actually manifestations of childhood-onset bipolar disorder.

What causes ADHD?

First of all, it is important to realize that ADHD is **not** caused by dysfunctional parenting, and those with ADHD do **not** merely lack intelligence or discipline.

Strong scientific evidence supports the conclusion that ADHD is a biologically based disorder. Recently, National Institute of Mental Health researchers using PET scans have observed significantly lower metabolic activity in regions of the brain controlling attention, social judgment, and movement in those with ADHD than in those without the disorder. Biological studies also suggest that children with ADHD may have lower levels of the neurotransmitter dopamine in critical regions of the brain.

Other theories suggest that cigarette, alcohol, and drug use during pregnancy or exposure to environmental toxins such as lead may be linked to the development of ADHD. Research also suggests a strong genetic basis to ADHD -- the disorder tends to run in families. In addition, research has shown that certain forms of genes related to the dopamine neurotransmitter system are linked to increased likelihood of the disorder.

While early theories suggested that ADHD may be caused by minor head injuries or brain damage resulting from infections or complications at birth, research found this hypothesis to lack substantial supportive evidence. Furthermore, scientific studies have not verified dietary factors, another widely discussed possible influence for the development of ADHD, as a main cause of the disorder.

How can ADHD be treated?

Many treatments -- some with good scientific basis, some without -- have been recommended for individuals with ADHD. The most proven treatments are medication and behavioral therapy.

Medication

Stimulants are the most widely used drugs for treating attention-deficit/hyperactivity disorder. The four most commonly used stimulants are methylphenidate (Ritalin), dextroamphetamine (Dexedrine, Desoxyn), amphetamine and dextroamphetamine (Adderall), and pemoline (Cylert). These drugs increase activity in parts of the brain that are underactive in those with ADHD, improving attention and reducing impulsiveness, hyperactivity, and/or aggressive behavior. Antidepressants, major tranquilizers, and the antihypertensive clonidine (Catapres) have also proven helpful in some cases. Most recently, the FDA has approved a non-stimulant medication, Atomoxetine (Straterra), a selective norepinephrine reuptake inhibitor for the treatment of ADHD.

Every person reacts to treatment differently, so it is important to work closely and communicate openly with your physician. Some common side effects of stimulant medications include weight loss, decreased appetite, trouble sleeping, and, in children, a temporary slowness in growth; however, these reactions can often be controlled by dosage adjustments. Medication has proven effective in the short-term treatment of more than 76 percent of individuals with ADHD.

Behavioral Therapy

Treatment strategies such as rewarding positive behavior changes and communicating clear expectations of those with ADHD have also proven effective. Additionally, it is extremely important for family members and teachers or employers to remain patient and understanding.

Children with ADHD can additionally benefit from caregivers paying close attention to their progress, adapting classroom environments to accommodate their needs, and using positive reinforcers. Where appropriate, parents should work with the school district to plan an individualized education program (IEP).

Other Treatments

There are a variety of other treatment options offered (some rather dubious) for those with ADHD. Those treatments **not** scientifically proven to work include biofeedback, special diets, allergy treatment, megavitamins, chiropractic adjustment, and special-colored glasses.

Reviewed by Peter Jensen, MD May 2003

For further information about support groups, family education, or advocacy call;

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ADHD

Attention-deficit hyperactivity disorder (ADHD) is one of the most common reasons children are referred for mental health services. It affects as many as one in every 20 children. Although boys are three to four times more likely than girls to experience ADHD, the disorder affects both boys and girls.

What Are the Signs and Symptoms?

There are three main types of ADHD. One type is characterized by inattentiveness, one type is characterized by hyperactive or impulsive behavior, and the third type is combined—when children exhibit signs of both types. Symptoms are often unnoticed until a child enters school. To be diagnosed with ADHD, a child must show symptoms in at least two settings, such as home and school, and the symptoms must interfere with the child's ability to function at home or school for at least six months. Specialists have agreed that at least six symptoms from the following lists must be present for an accurate diagnosis, and symptoms must begin by age 7.

Signs of inattentive behavior:

- Has difficulty following instructions
- Has difficulty focusing on tasks
- Loses things at school and at home
- Forgets things often
- Becomes easily distracted or has difficulty listening
- Lacks attention to detail, makes careless mistakes or is disorganized
- Fails to complete homework or tasks

Signs of hyperactive behavior:

- Is fidgety
- Leaves seat when shouldn't
- Runs or climbs inappropriately
- Talks excessively
- Difficulty playing quietly
- Always on the go
- Blurts out answers
- Has trouble waiting turn
- Interrupts

The presence of some symptoms, however, does not confirm a diagnosis of ADHD. Just because a child has a lot of energy or difficulty paying attention in school does not mean the child has ADHD. An accurate diagnosis relies on the presence of a range of symptoms and difficulties that prevent the child from performing at an appropriate level for his or her age and intelligence level. Teachers often first observe these issues, and their input should be considered seriously.

How Does ADHD Affect School and Social Life?

Symptoms of ADHD can make school difficult for a child with the disorder. Although most children with ADHD have normal or above-normal intelligence, 40 to 60 percent have serious learning difficulties. Many others have specific problems with schoolwork or maintaining good grades, and face particular challenges with assignments and tests that require focused attention or lengthy writing, or have time limits. On a social level, children with ADHD often have trouble developing meaningful relationships with peers and family

members. Other children may find it frustrating to play with a child who has ADHD, because classic symptoms include difficulty following rules, waiting one's turn or excessive talking.

What Other Disorders Commonly Occur With ADHD?
Children and adolescents with ADHD are more likely than children without the disorder to suffer from other mental disorders. About one-half of all young people with ADHD have oppositional defiant disorder; about one-quarter have an anxiety disorder; as many as one-third have depression; and one-fifth have bipolar disorder. Adolescents with untreated ADHD are at risk for substance abuse disorders. Research shows that young people treated for ADHD have lower rates of substance abuse than children who go untreated.

What Causes ADHD?
ADHD is nobody's fault. Researchers believe that biology and genes play a large role in the development of ADHD. In fact, 30 to 40 percent of children diagnosed with ADHD have relatives with the same disorder. Brain scans reveal that the brains of children with ADHD differ from those of children without the disorder. Children with ADHD are thought to have problems with the part of the brain that controls the organization and direction of thought and behavior.

What Can Parents and Caregivers Do?
Children with symptoms of ADHD should be referred to and evaluated by a mental health professional who specializes in treating children, unless your primary care doctor has experience in treating this disorder. The diagnostic evaluation should include behavioral observation in the classroom and at home. A comprehensive treatment plan should be developed with the family, and, whenever possible, the child should be involved in making treatment decisions. Educational testing should be performed when learning disabilities are present.

Treatment for ADHD is effective for most children. Early identification, diagnosis and treatment help children reach their full potential. The most effective treatments for ADHD include a combination of medication, behavioral therapy, and parental support and education. Nine out of 10 children respond to medication, and 50 percent of children who do not respond to an initial medication will respond to a second. When ADHD co-occurs with another disorder, such as depression or anxiety, a combination of medication and psychotherapy is shown to be particularly effective. Although the value of medication has been well-documented, parents should feel free to discuss any concerns about medication use with their child's doctor.

If your child or a child you know is diagnosed with ADHD, be patient. Even with treatment, symptoms may take time to improve. Instill a sense of competence in the child or adolescent. Promote his or her strengths, talents and feelings of self-worth. Remember that the side effects of untreated ADHD (such as failure, frustration, discouragement, social isolation, low self-esteem and depression) may cause more problems than the disorder itself.

Information via Mental Health America. Please visit http://www.mentalhealthamerica.net/ for more information.

Tennessee Voices for Children speaks out as active advocates for the emotional and behavioral well-being of children and their families. We provide Advocacy, Training, Support, Referral, Prevention, and Early Intervention Services.

TENNESSEE VOICES FOR CHILDREN

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Offices in Nashville, Memphis, Knoxville, Jackson, and Columbia.

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ADHD and Children Who Are Gifted. ERIC Digest #522.

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Howard's teachers say he just isn't working up to his ability. He doesn't finish his

assignments, or just puts down answers without showing his work; his handwriting and spelling are poor. He sits and fidgets in class, talks to others, and often disrupts class by interrupting others. He used to shout out the answers to the teachers' questions (they were usually right), but now he daydreams a lot and seems distracted. Does Howard have Attention Deficit Hyperactivity Disorder (ADHD), is he gifted, or both?

Frequently, bright children have been referred to psychologists or pediatricians because they exhibited certain behaviors (e.g., restlessness, inattention, impulsivity, high activity level, day-dreaming) commonly associated with a diagnosis of ADHD. Formally, the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) (American Psychiatric Association) lists 14 characteristics that may be found in children diagnosed as having ADHD. At least 8 of these characteristics must be present, the onset must be before age 7, and they must be present for at least six months.

DSM-III-R DIAGNOSTIC CRITERIA FOR ATTENTION-DEFICIT

HYPERACTIVITY DISORDERNote: DSM-III-R Diagnostic Criteria For Attention-Deficit Hyperactivity Disorder reprinted with permission from the "Diagnostic and Statistical Manual of Mental Disorders," Third Edition, Revised, Washington, DC, American Psychiatric Association, 1987.

1. Often fidgets with hands or feet or squirms in seat (in adolescents may be limited to subjective feelings of restlessness).

2. Has difficulty remaining seated when required to.

3. Is easily distracted by extraneous stimuli.

4. Has difficulty awaiting turns in games or group situations.

5. Often blurts out answers to questions before they have been completed.

- 6. Has difficulty following through on instructions from others (not due to oppositional behavior or failure of comprehension).
- 7. Has difficulty sustaining attention in tasks or play activities.
- 8. Often shifts from one uncompleted activity to another.
- 9. Has difficulty playing quietly.
- 10. Often talks excessively.
- 11. Often interrupts or intrudes on others, e.g., butts into other people's games.
- 12. Often does not seem to listen to what is being said to him or her.
- 13. Often loses things necessary for tasks or activities at school or at home (e.g., toys, pencils, books).
- 14. Often engages in physically dangerous activities without considering possible consequences (not for the purpose of thrill-seeking), e.g., runs into street without looking.

Almost all of these behaviors, however, might be found in bright, talented, creative, gifted children. Until now, little attention has been given to the similarities and differences between the two groups, thus raising the potential for misidentification in both areas -- giftedness and ADHD.

Sometimes, professionals have diagnosed ADHD by simply listening to parent or teacher descriptions of the child's behaviors along with a brief observation of the child. Other times, brief screening questionnaires are used, although these questionnaires only quantify the parents' or teachers' descriptions of the behaviors (Parker, 1992). Children who are fortunate enough to have a thorough physical evaluation (which includes screening for allergies and other metabolic disorders) and extensive psychological evaluations, which include assessment of intelligence, achievement, and emotional status, have a better chance of being accurately identified. A child may be gifted and have ADHD. Without a thorough professional evaluation, it is difficult to tell.

HOW CAN PARENTS OR TEACHERS DISTINGUISH BETWEEN ADHD AND

GIFTEDNESS?Seeing the difference between behaviors that are sometimes associated with giftedness but also characteristic of ADHD is not easy, as the following parallel lists show.

BEHAVIORS ASSOCIATED WITH ADHD (BARKLEY, 1990)

1. Poorly sustained attention in almost all situations

2. Diminished persistence on tasks not having immediate consequences

3. Impulsivity, poor delay of gratification

4. Impaired adherence to commands to regulate or inhibit behavior in social contexts

5. More active, restless than normal children

6. Difficulty adhering to rules and regulations

BEHAVIORS ASSOCIATED WITH GIFTEDNESS (WEBB, 1993)

1. Poor attention, boredom, daydreaming in specific situations

2. Low tolerance for persistence on tasks that seem irrelevant

3. Judgment lags behind development of intellect

4. Intensity may lead to power struggles with authorities

5. High activity level; may need less sleep

6. Questions rules, customs and traditions

CONSIDER THE SITUATION AND SETTING

It is important to examine the situations in which a child's behaviors are problematic. Gifted children typically do not exhibit problems in all situations. For example, they may be seen as ADHD-like by one classroom teacher, but not by another; or they may be seen as ADHD at school, but not by the scout leader or music teacher. Close examination of the troublesome situation generally reveals other factors which are prompting the problem behaviors. By contrast, children with ADHD typically exhibit the problem behaviors in virtually all settings "including at home and at school" though the extent of their problem behaviors may fluctuate significantly from setting to setting (Barkley, 1990), depending largely on the structure of that situation. That is, the behaviors exist in all settings, but are more of a problem in some settings than in others. In the classroom, a gifted child's perceived inability to stay on task is likely to be related to boredom, curriculum, mismatched learning style, or other environmental factors.

Gifted children may spend from one-fourth to one-half of their regular classroom time waiting for others to catch up -- even more if they are in a heterogeneously grouped class. Their specific level of academic achievement is often two to four grade levels above their actual grade placement. Such children often respond to non-challenging or slow-moving classroom situations by "off-task" behavior, disruptions, or other attempts at self-amusement. This use of extra time is often the cause of the referral for an ADHD evaluation.

Hyperactive is a word often used to describe gifted children as well as children with ADHD. As with attention span, children with ADHD have a high activity level, but this activity level is often found across situations (Barkley, 1990). A large proportion of gifted children are highly active too. As many as one-fourth may require less sleep; however, their activity is generally focused and directed (Clark, 1992; Webb, Meckstroth, & Tolan, 1982), in contrast to the behavior of children with ADHD. The intensity of gifted children's concentration often permits them to spend long periods of time and much energy focusing on whatever truly interests them. Their specific interests may not coincide, however, with the desires and expectations of teachers or parents.

While the child who is hyperactive has a very brief attention span in virtually every situation (usually except for television or computer games), children who are gifted can concentrate comfortably for long periods on tasks that interest them, and do not require immediate completion of those tasks or immediate consequences. The activities of children with ADHD tend to be both continual and random; the gifted child's activity usually is episodic and directed to specific goals.

While difficulties and adherence to rules and regulations has only begun to be accepted as a sign of ADHD (Barkley, 1990), gifted children may actively question rules, customs and traditions, sometimes creating complex rules which they expect others to respect or obey. Some engage in power struggles. These behaviors can cause discomfort for parents, teachers, and peers.

One characteristic of ADHD that does not have a counterpart in children who are gifted is variability of task performance. In almost every setting, children with ADHD tend to be highly inconsistent in the quality of their performance (i.e., grades, chores) and the amount of time used to accomplish tasks (Barkley, 1990). Children who are gifted routinely maintain consistent efforts and high grades in classes when they like the teacher and are intellectually challenged, although they may resist some aspects of the work, particularly repetition of tasks perceived as dull. Some gifted children may become intensely focused and determined (an aspect of their intensity) to produce a product that meets their self-imposed standards.

WHAT TEACHERS AND PARENTS CAN DO

Determining whether a child has ADHD can be particularly difficult when that child is

also gifted. The use of many instruments, including intelligence tests administered by qualified professionals, achievement and personality tests, as well as parent and teacher rating scales, can help the professional determine the subtle differences between ADHD and giftedness. Individual evaluation allows the professional to establish maximum rapport with the child to get the best effort on the tests. Since the test situation is constant, it is possible to make better comparisons among children. Portions of the intellectual and achievement tests will reveal attention problems or learning disabilities, whereas personality tests are designed to show whether emotional problems (e.g., depression or anxiety) could be causing the problem behaviors. Evaluation should be followed by appropriate curricular and instructional modifications that account for advanced knowledge, diverse learning styles, and various types of intelligence.

Careful consideration and appropriate professional evaluation are necessary before concluding that bright, creative, intense youngsters like Howard have ADHD. Consider the characteristics of the gifted/talented child and the child's situation. Do not hesitate to raise the possibility of giftedness with any professional who is evaluating the child for ADHD; however, do not be surprised if the professional has had little training in recognizing the characteristics of gifted/talented children (Webb, 1993). It is important to make the correct diagnosis, and parents and teachers may need to provide information to others since giftedness is often neglected in professional development programs.

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This ERIC Digest was developed in 1993 by James T. Webb, Ph.D., Professor and Associate Dean, and Diane Latimer, M.A., School of Professional Psychology, Wright State University, Dayton, Ohio.

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Attention Deficit/ Hyperactivity Disorder

Does your child have trouble paying attention?

Does he or she talk nonstop or have trouble staying still?

Does your child have a hard time controlling his or her behavior?

For some children, these may be symptoms of attention deficit/ hyperactivity disorder, or ADHD.

Attention Deficit/ Hyperactivity Disorder

What is attention deficit/hyperactivity disorder, or ADHD?

ADHD is a common childhood disorder, and it may affect children differently. It makes it hard for a child to focus and pay attention. Some kids may be hyperactive or have trouble being patient. ADHD can make it hard for a child to do well in school or behave at home.

ADHD can be treated. Doctors and specialists can help.

Who can develop ADHD?

Children of all backgrounds can have ADHD. Teens and adults can have ADHD too.

What causes ADHD?

No one knows for sure. ADHD probably comes from a combination of things. Some possibilities are:

- **Genes**, because the disorder sometimes runs in families
- **Lead** in old paint and plumbing parts
- **Smoking and drinking** alcohol during pregnancy
- **Certain brain injuries**
- **Food additives** like artificial coloring, which might make hyperactivity worse.

Some people think **refined sugar causes ADHD**. But most research does not support the idea that sugar causes ADHD.

What are the symptoms of ADHD?

ADHD has many symptoms. Some symptoms at first may look like normal behaviors for a child, but ADHD makes them much worse and occur more often. Children with ADHD have at least six symptoms that start in the first five or six years of their lives.

Children with ADHD may:

- Get distracted easily and forget things often
- Switch too quickly from one activity to the next
- Have trouble with directions
- Daydream too much
- Have trouble finishing tasks like homework or chores
- Lose toys, books, and school supplies often
- Fidget and squirm a lot
- Talk nonstop and interrupt people
- Run around a lot
- Touch and play with everything they see
- Be very impatient
- Blurt out inappropriate comments
- Have trouble controlling their emotions.

How do I know if my child has ADHD?

Your child's doctor may make a diagnosis. Or sometimes the doctor may refer you to a mental health specialist who is more experienced with ADHD to make a diagnosis. There is no single test that can tell if your child has ADHD.

It can take months for a doctor or specialist to know if your child has ADHD. He or she needs time to watch your child and check for other problems. The specialist may want to talk to you, your family, your child's teachers, and others.

Sometimes it can be hard to diagnose a child with ADHD because symptoms may look like other problems. For example, a child may seem quiet and well-behaved, but in fact he or she is having a hard time paying attention and is often distracted. Or, a child may act badly in school, but teachers don't realize that the child has ADHD.

If your child is having trouble at school or at home and has been for a long time, ask his or her doctor about ADHD.

How do children with ADHD get better?

Children with ADHD can get better with treatment, but there is no cure. There are three basic types of treatment:

1. Medication. Several medications can help. The most common types are called stimulants. Medications help children focus, learn, and stay calm.

Sometimes medications cause side effects, such as sleep problems or stomachaches. Your child may need to try a few medications to see which one works best. It's important that you and your doctor watch your child closely while he or she is taking medicine.

2. Therapy. There are different kinds of therapy. Behavioral therapy can help teach children to control their behavior so they can do better at school and at home.

3. Medication and therapy combined. Many children do well with both medication and therapy.

How can I help my child?

Give your child guidance and understanding. A specialist can show you how to help your child make positive changes. Supporting your child helps everyone in your family. Also, talk to your child's teachers. Some children with ADHD can get special education services.

How does ADHD affect teens?

Being a teenager isn't always easy. Teens with ADHD can have a tough time. School may be a struggle, and some teens take too many risks or break rules. But like children with ADHD, teens can get better with treatment.

What can I do for my teen with ADHD?

Support your teen. Set clear rules for him or her to follow. Try not to punish your teen every time he or she breaks the rules. Let your teen know you can help.

Can adults have ADHD too?

Many adults have ADHD and don't know they have it. Like ADHD in children and teens, ADHD in adults can make life challenging. ADHD can make it hard for adults to feel organized, stick with a job, or get to work on time. Adults with ADHD may have trouble in relationships. The disorder can also make adults feel restless.

ADHD in adults can be diagnosed and treated. For some adults, finding out they have ADHD can be a big relief. Being able to connect ADHD to longtime problems helps adults understand that they can get better. If you're an adult and think you may have ADHD symptoms, call your doctor.

Contact us to find out more about ADHD.

NIMH
National Institute of Mental Health

National Institute of Mental Health
Science Writing, Press & Dissemination Branch
6001 Executive Boulevard
Room 8184, MSC 9663
Bethesda, MD 20892-9663
Toll-free: 1–866–615–NIMH (6464)
TTY Toll-free: 1–866–415–8051
E-mail: nimhinfo@nih.gov
Web site: http://www.nimh.nih.gov

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Attention-deficit/Hyperactivity Disorder (ADHD)

What is ADHD?

Attention-deficit/Hyperactivity Disorder (ADHD) is a neurobiological disorder that is characterized by developmentally inappropriate levels of inattention, impulsivity, and hyperactivity. Between 3% and 7% of school-aged children are affected by ADHD.[1,2] **ADHD is a lifespan condition that affects children, adolescents and adults of all ages.** It affects both males and females, and people of all races and cultural backgrounds.

History of ADHD

In 1902, the medical field began documenting children exhibiting symptoms of inattentiveness, impulsivity and hyperactivity.[3] Since this time, the disorder has been given numerous labels which include: minimal brain dysfunction, hyperkinetic reaction of childhood, and attention-deficit disorder with or without hyperactivity. With the most recent version of the Diagnostic and Statistical Manual (DSM-IV) classification system, the disorder was renamed Attention-deficit/Hyperactivity Disorder or ADHD.

While some individuals, including many professionals and the media, still refer to the condition as "ADD" (Attention Deficit Disorder), this term is no longer in widespread use.

Onset of ADHD

Typically symptoms of ADHD first appear in early childhood. Many symptoms persist into adulthood and can pose life-long challenges in areas such as relationships, work, and home. Current DSM-IV diagnostic criteria state that the onset of symptoms must first occur before the age of seven. However, many leading researchers within the field of ADHD have argued that the criterion should expand the age range to include onset at anytime during childhood.[4]

What Causes ADHD?

Current research has found strong evidence that the primary cause of ADHD is genetic, due to the combined effect of several different genes.[5] This means that ADHD runs in families. If a parent has ADHD, his or her child has more than a 50% chance of also being diagnosed with ADHD. Although environmental factors and prenatal and post-natal injuries can play a role in the cause of ADHD, twin studies have shown that 80% of problems with inattention, hyperactivity and impulsivity are the results of genetic factors.[6]

Current research does not support the idea that ADHD is caused by excessive sugar intake, food additives, excessive viewing of television, or poor parenting skills.

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5354 Parkdale Drive, Suite 200 ■ St. Louis Park, MN 55416
(952) 922-8374 ■ www.ldaminnesota.org
Learning Disabilities Association of Minnesota

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ADHD Subtypes

Within ADHD there are three primary subtypes: ADHD predominantly inattentive type, ADHD predominantly hyperactive-impulsive type, and ADHD combined type. A diagnosis of one type or another depends on the specific symptoms (i.e., the "diagnostic criteria") that person exhibits. For a diagnosis of ADHD, six or more of the symptoms must be present. In addition, the symptoms must not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder.

ADHD inattentive type

- Often fails to give close attention to details or makes careless mistakes
- Often has difficulty sustaining attention in tasks
- Often does not seem to listen when spoken to directly
- Often does not follow through on instructions and fails to finish tasks
- Often has difficulty organizing work and activities
- Often avoids or dislikes tasks that require sustained mental effort
- Often loses things necessary for tasks or activities
- Is often easily distracted by extraneous stimuli
- Is often forgetful in daily activities

ADHD hyperactive-impulsive type

- Often fidgets with hands or feet or squirms in seat
- Often leaves seat in situations in which remaining seated is expected
- Often runs about or is otherwise physically active in situations where inappropriate (in adolescents and adults, may be limited to subjective feelings of restlessness)
- Often has difficulty playing or engaging in leisure activities quietly
- Is often "on the go" or often acts as if "driven by a motor"
- Often talks excessively
- Often blurts out answers before questions have been completed
- Often has difficulty awaiting turn
- Often interrupts or intrudes on others

ADHD combined type

Individual meets both sets of inattentive and hyperactive / impulsive criteria.

In addition to the symptoms listed above, the presence of significant impairment in two or more major life settings must occur in order to diagnose ADHD.

Adults and ADHD

In the past, it was widely believed that children outgrew ADHD by the time they reached adolescence since hyperactivity often diminishes during the teen years. However, it is now known that ADHD is a lifespan disorder and symptoms often persist from childhood through adolescence and into adulthood. Research suggests that among those children clinically diagnosed with the disorder in childhood, up to 65 percent may continue to meet diagnostic criteria in adulthood. Adults who have retained some, but not all, of the symptoms of childhood ADHD may be diagnosed as having ADHD in partial remission. Whether or not they continue to meet the full diagnostic criteria for ADHD in adulthood, at least 50-70 percent may continue to manifest some symptoms that cause some level of impairment in their adult life.[7] Current research has found that roughly 2 to 4 percent of adults have ADHD.

Research on adult ADHD is still in an early stage of development. The current criteria for ADHD emphasize a childhood presentation, and there is a growing body of evidence that suggests that the diagnostic features of ADHD take a different form in adults. [8] One example of this is within the area of hyperactivity. Although hyperactivity can be a common feature among children with ADHD, it is likely to be less overt in adults. The "on the go" behavior seen in children with ADHD is replaced in adults with restlessness, difficulty relaxing, and a feeling of chronically being on edge.

Recently a new set of diagnostic symptoms for adults was proposed by Drs. Barkley and Murphy at the CHADD 18th Annual Conference in Chicago. In order to develop this new set of diagnostic symptoms, Dr. Barkley and Kevin Murphy, Ph.D., conducted a comprehensive study of the symptoms of ADHD in adults in order to identify the potential most predictive symptoms for diagnosis. In order to be diagnosed with ADHD, an adult would need to have six out of nine of the following proposed symptoms: [9]

1. Often easily distracted by extraneous stimuli
2. Often makes decisions impulsively
3. Often has difficulty stopping activities or behavior when he or she should do so
4. Often starts a project or task without reading or listening to directions carefully
5. Often shows poor follow-through on promises or commitments he or she makes to others
6. Often has trouble doing things in their proper order or sequence
7. Often more likely to drive a motor vehicle much faster than others
8. Often has difficulty sustaining attention in tasks or leisure activities
9. Often has difficulty organizing tasks and activities

Strategies for Teaching ADHD Adults

Some of the difficulties adults with ADHD may have in a learning environment include procrastination, poor organization and time management resulting in academic underachievement, poor self-esteem, and difficulty keeping current with assignments and reading. Distractibility and difficulty focusing can lead to problems with reading comprehension, note-taking, and completing assignments and tests in a timely fashion. The following strategies can be used to help address some of the impediments listed above.

Problem solving:

- Teach learners explicit steps for problem solving.
- When faced with a problem, help learners brainstorm potential solutions to the problem and discuss the pros and cons of each solution.

Poor sense of time, poor organization skills:

- Be predictable: Structure and consistency is important for adults with ADHD. Coach them on how to prioritize tasks for themselves.
- Help learners determine the amount of time an activity will take by having them keep a time log. Prior to starting this, have the learners predict the time that will be required for the activity.
- Set alarms on PDAs, watches or phones that will signal learners when it is time to move on to the next task.
- Teach learners how to use a daily planner. Planner must work for the learners and require minimal effort and upkeep.
- Identify all of the materials learners will need during a session, rather than having them identify the needed materials as they are working on an assignment. Coach them to have a plan for what to do if they get stuck so they don't waste time.
- Tell learners at the beginning of a lesson how much time they will have to complete it.
- Provide advance warning that a lesson is about to end. Announce 5-10 minutes before the end of a lesson how much time remains.

Poor comprehension, lack of self-monitoring:

- Prepare learners for their lesson by giving them an outline of the material that will be covered during the session. Point out or discuss key concepts or vocabulary prior to reading so learners can focus on relevant details.
- Review previous information learned on a topic before covering new information. Help learners link the old information with the new information. At end of lesson, require learners to sum up new content that was covered.
- When reading, encourage learners to make short notes in the margins that summarize the main idea of a paragraph. If the reading passage is difficult, have learners summarize the main idea of every 2-3 sentences.

- Use cooperative learning strategies. Examples of this include:
    1. Peer coaching: Learners take turns being the instructor and leading their peers in using comprehension strategies.
    2. Reciprocal questioning: As learners progress through a reading passage, they take turns discussing what they are reading and how it relates to previous information they have read. Reciprocal questioning is a technique that allows learners to check their comprehension by asking each other questions.
    3. Think-Pair-Share: In this strategy teacher asks learners to think about a topic, pairs learners to discuss the topic, and then has pairs share ideas with the group.
- Highlight key words in the instructions or worksheets to help learners focus on key instructions. When reading, show learners how to identify and highlight a key sentence, or have them write the key sentence on a separate sheet of paper. In math, show learners how to underline the important facts or operations needed to solve a problem.

Difficulty getting started on activities, persisting, managing frustration and diminished motivation:

- Help learners break large projects into smaller tasks. Once tasks have been identified, help learners attach due dates to each step and check in with them to monitor progress.
- Set mini-goals throughout a project and have learners earn rewards along the way to increase motivation.
- Rotate between subjects that the learners find interesting and boring.
- Limit time spent on each task.
- Place learning in a meaningful or authentic context. For example, use real life situations to illustrate a concept.

Resources:

CHADD: Children and Adults with ADHD. http://www.chadd.org
Attention Deficit Disorder Association. http://www.add.org
Attention Deficit Disorder Resources. http://www.addresources.org
Nadeau, K.G. (1997). *ADD in the Workplace*. Bristol, PA: Brunner/Mazel, Inc.
Kohlberg, J. (2002). *ADD-Friendly Ways to Organize Your Life*. Routledge Press.

For further consultation on ADHD, call Becky Lawyer, ADHD Specialist, at 952-922-8374. LDA also offers Diagnostic Assessments for ABE metro learners that will "rule in" ADHD. If you have questions about this new assessment, or have students who might benefit from it, call Mike Anderson, Assessment Specialist, at 952-922-8374.

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What Is An Emotional or Behavioral Disorder?

Although childhood is generally regarded as a carefree time of life, many children and adolescents experience emotional difficulties growing up. Identifying an emotional or behavioral disorder is difficult for many reasons. For instance, it cannot be stated with certainty that something "goes wrong" in the brain, causing a child to act in a particular way. Contrary to early psychiatric theories, it is impossible to conclude that a mother or father did something wrong early in a child's life, causing an emotional or behavioral disorder. The question of who or what is responsible for a child's problems has given way to an understanding that the combinations of factors affecting development – biological, environmental, psychological - are almost limitless.

Children's behaviors exist on a continuum, and there is no specific line that separates troubling behavior from a serious emotional problem. Rather, a problem can range from mild to serious. A child is said to have a specific "diagnosis" or "disorder" when his or her behaviors occur frequently and are severe. A diagnosis represents a "best guess" based on a child's behaviors that he or she has a specific mental health disorder and not just a problem that all children might have from time to time. Research on the cause of emotional disorders has shown that the way the brain receives and processes information is different for children with some types of disorders than for those who do not have those problems. However, this is not true for all children with emotional disorders.

There have been many recent advances in understanding the emotional problems of children and adolescents. As technologies are developed to study the central nervous system and the relationships between brain chemistry and behavior, the research is providing new understanding of how and why some children develop emotional disorders. Still interviews with the child, parents or other family members remain one of the most important sources of information to help professionals arrive at a diagnosis.

A diagnosis of a mental health disorder will be based on one of several classification systems used in the United States. The most familiar system is the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Revised.* The DSM-IVR contains descriptions of specific behavioral characteristics that are used to determine whether a child or adult has an emotional or mental disorder. The criteria that establishes the presence of a mental health disorder are subject to interpretation that may vary from professional to professional. Cultural and subjective criteria such as race, socioeconomic status, or the behaviors of the child's parents at the time of evaluation have an effect on professional opinion, as does the training of the professional and his or her years of experience.

A DSM-IVR diagnosis serves several purposes. First, it may establish the presence of a specific mental health problem which has an accepted treatment standard, such as the use of medication in treating depression. Second, a formal diagnosis may be required for insurance or Medicaid reimbursement. A diagnosis for a child may mean that insurance may cover the costs of services the child needs but would not be eligible for without the diagnosis.

Parents should bring up issues they believe may influence their child's diagnosis during the evaluation. These influences must be considered by the evaluator in making a diagnosis. Generally, determining whether a child has a biologically based mental illness, a behavioral problem or an emotional disorder is not as important to a family as determining what interventions are the most useful to help support their child. What an evaluation *should* yield, regardless of whether a child's problems result in a *diagnosed disorder* or something less definitive, is a set of recommendations for how to support him or her in developing necessary skills.

The question about whether a child needs help should not depend on whether he or she has a diagnosis. A problem does not disappear simply because it is not severe enough to meet the

PACER CENTER
CHAMPIONS FOR CHILDREN WITH DISABILITIES
8161 Normandale Blvd
Minneapolis, MN 55437-1044
952.838.9000
952.838.0190 TTY
952.838.0199 fax
pacer@pacer.org
www.PACER.org

criteria for a diagnosis. Parents should insist on a list of specific written recommendations for how to help their child as a result of any evaluation.

The DSM IVR, for instance, lists eighteen separate characteristics of behavior attributed to attention deficit hyperactivity disorder (ADHD). If a child shows six signs of inattention or six signs of hyperactivity and impulsivity, he or she may be given a clinical diagnosis of ADHD. This means that the mental health professional working with the child believes that the child has a medically-based problem and may recommend a specific therapy, such as medication. But the characteristics by which ADHD is diagnosed are also open to interpretation. What does it mean to say that a child is "often distracted by extraneous stimuli?" How often is often? What does distracted by mean? And what happens to the child who shows only five signs of inattention and therefore does not have ADHD, but is still failing in school and is unable to stay focused on his or her work?

Different professionals view emotional and behavioral disorders in different ways. Their outlook—and their treatment plan—is usually shaped by their training, their experience, and their philosophy about the origins of a child's problems. Though the philosophical orientation or direction may not seem important to parents who are frantically seeking a way to locate help for their child, it is still recommended that parents discuss such beliefs with professionals they contact. Since the treatment program for a child will stem from the professional's philosophy, parents should be sure they agree with "where the professional is coming from," as well as with the methods used by the professional to help their child. Otherwise, their cooperation in the treatment process may be compromised. When seeking a treatment program for a child, parents may also want to seek a second opinion if they disagree with the approach suggested by the first mental health professional.

The following examples of emotional and behavioral disorders are from the DSM-IVR diagnostic criteria. This list is not comprehensive, but is included to give parents examples of emotional disorders affecting children and youth.

Adjustment Disorders describe emotional or behavioral symptoms that children may exhibit when they are un- able, for a time, to appropriately adapt to stressful events or changes in their lives. The symptoms, which must occur within three months of a stressful event or change, and last no more than six months after the stressor ends, are: marked distress, in excess of what would be expected from exposure to the event(s), or an impairment in social or school functioning. There are many kinds of behaviors associated with different types of adjustment disorders, ranging from fear or anxiety to truancy, vandalism, or fighting. Adjustment disorders are relatively common, ranging from 5% to 20%.

Anxiety Disorders are a large family of disorders (school phobia, posttraumatic stress disorder, avoidant disorder, obsessive-compulsive disorder, panic disorder, panic attack, etc.) where the main feature is exaggerated anxiety. Anxiety disorders may be expressed as physical symptoms, (headaches or stomach aches), as disorders in conduct (work refusal, etc.) or as inappropriate emotional responses, such as giggling or crying. Anxiety occurs in all children as a temporary reaction to stressful experiences at home or in school When anxiety is intense and persistent, interfering with the child's functioning, it may become deemed as an Anxiety Disorder.

Obsessive-Compulsive Disorder (OCD) which occurs at a rate of 2.5%, means a child has recurrent and persistent obsessions or compulsions that are time consuming or cause marked distress or significant impairment. Obsessions are persistent thoughts, impulses, or images that are intrusive and inappropriate (repeated doubts, requirements to have things in a specific order, aggressive impulses, etc.). Compulsions are repeated behaviors or mental acts (hand washing, checking, praying, counting, repeating words silently, etc.) that have the intent of reducing stress or anxiety. Many children with OCD may know that their behaviors are extreme or unnecessary, but are so driven to complete their routines that they are unable to stop.

Post-Traumatic Stress Disorder (PTSD) can develop following exposure to an extremely traumatic event or series of events in a child's life, or witnessing or learning about a death or injury to someone close to the child. The symptoms must occur within one month after exposure to the stressful event. Responses in children include intense fear, helplessness, difficulty falling asleep, nightmares, persistent re-experiencing of the event, numbing of general responsiveness, or increased arousal. Young children with PTSD may repeat their experience in daily play activities, or may lose recently acquired skills, such as toilet training or expressive language skills.

Selective Mutism (formerly called Elective-Mutism) occurs when a child or adolescent persistently fails to speak in specific social situations such as at school or with playmates, where speaking is expected. Selective mutism interferes with a child's educational achievement and social communication. Onset of Selective Mutism usually occurs before the age of five, but may not be evaluated until a child enters school for the first time. The disorder is regarded as relatively rare, and usually lasts for

a period of a few months, although a few children have been known not to speak in school during their entire school career.

Attention Deficit/Hyperactivity Disorder is a condition, affecting 3%-5% of children, where the child shows symptoms of inattention that are not consistent with his or her developmental level. The essential feature of Attention Deficit Hyperactivity Disorder is "a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development." A few doctors have written articles on ADHD in early childhood, and some suggest that signs of the disorder can be detected in infancy. Most physicians prefer to wait until a clear pattern of inattentive behaviors emerge that affect school or home performance before attempting to diagnose ADHD. Medications, such as Ritalin or Dexedrine, or a combination of these and other medicines have been very successful in treating ADHD.

Oppositional Defiant Disorder. The central feature of oppositional defiant disorder (ODD), which occurs at rates of 2 to 16%, is "a recurrent pattern of negativistic, defiant, disobedient and hostile behaviors towards authority figures, lasting for at least six months …" The disruptive behaviors of a child or adolescent with ODD are of a less severe nature than those with Conduct Disorder, and typically do not include aggression toward people or animals, destruction of property, or a pattern of theft or deceit. Typical behaviors include arguing with adults, defying or refusing to follow adult directions, deliberately annoying people, blaming others, or being spiteful or vindictive.

Conduct Disorder, which affects between 6% and 16% of boys and 2% to 9% of girls, has as the essential feature "a repetitive and persistent. pattern of behavior in which the basic rights of others or major age-appropriate social norms or rules are violated." Children with Conduct Disorder often have a pattern of staying out late de- spite parental objections, running away from home, or being truant from school. Children with Conduct Disorder may bully or threaten others or may be physically cruel to animal and people. Conduct Disorder is often associated with an early onset of sexual behavior, drinking, smoking, and reckless and risk-taking acts.

Anorexia Nervosa can be thought of as a "distorted body image" disorder, since many adolescents who have Anorexia see themselves as overweight and unattractive. In Anorexia Nervosa, the individual refuses to maintain a minimally normal body weight, is intensely afraid of gaining weight, and has no realistic idea of the shape and size of his or her body. Signs of anorexia nervosa include extremely low body weight, dry skin, hair loss, depressive symptoms, constipation, low blood pressure, and bizarre behaviors, such as hiding food or binge eating.

Bulimia Nervosa is characterized by episodes of "binge and purge" behaviors, where the person will eat enormous amounts of food, then induce vomiting, abuse laxatives, fast, or follow an austere diet to balance the effects of dramatic overeating. Essential features are binge eating and compensatory methods to prevent weight gain. Bulimia Nervosa symptoms include the loss of menstruation, fatigue or muscle weakness, gastrointestinal problems or intolerance of cold weather. Depressive symptoms may follow a binge and purge episode.

Bipolar Disorder (Manic Depressive Disorder) has symptoms that include an alternating pattern of emotional highs and emotional lows or depression. The essential feature of Bipolar 1 Disorder is "a clinical course that is characterized by the occurrence of one or more Manic Episodes (a distinct period during which there is an abnormally and persistently elevated, expansive or irritable mood), or Mixed Episodes (a period of time lasting at least one week in which the criteria are met both for a Manic Episode and a Depressive Episode nearly every day)." There are six different types of Bipolar 1 Disorder, reflecting variations in manic and depressive symptoms.

Major Depressive Disorder occurs when a child has a series of two or more major depressive episodes, with at least a two-month interval between them. Depression may be manifested in continuing irritability or inability to get along with others, and not just in the depressed affect. In Dysthymic Disorder, the depressed mood must be present for more days than not over a period of at least two years. Dysthymic Disorder and Major Depressive Disorder are differentiated based on severity, chronicity, and persistence. Usually, Major Depressive Disorder can be distinguished from the person's usual functioning, whereas Dysthymic Disorder is characterized by chronic, less severe depressive symptoms that have been present for many years.

Autistic Disorder is a Pervasive Developmental Disorder, characterized by the presence of markedly abnormal or impaired development in social interaction and communication, and a markedly restricted level of activities or interests. Children with Autism may fail to develop relationships with peers of the same age, and may have no interest in establishing friendships. The impairment in communication (both verbal and nonverbal) is severe for some children with this disorder.

Schizophrenia is a serious emotional disorder characterized by loss of contact with environment and personality changes. Hallucinations and delusions, disorganized speech, or catatonic behavior often exist as symptoms of this disorder, which is frequently manifest in young adulthood. The symptoms may also occur in younger children. There are a number of subtypes of schizophrenia, including Paranoid Type, Disorganized Type, Catatonic Type, Residual Type, and Undifferentiated Type. The lifetime prevalence of Schizophrenia is estimated at between 0.5% and 1%.

Tourette's Disorder occurs in approximately 4-5 individuals per 10,000. The disorder includes both multiple motor tics and one or more vocal tics, which occur many times per day, nearly every day, or intermittently throughout a period of more than one year. During this period, there is never a tic-free period of more than 3 consecutive months. Chronic Motor or Vocal Tic Disorder includes either motor ties or vocal tics, but not both as in Tourette's Disorder. Transient Tic Disorder includes either single or multiple motor tics many times a day for at least four weeks, but for no longer than 12 months. This can occur as either a single episode or as recurrent episodes over time.

Seriously Emotionally Disturbed, or SED, is not a DSM-IVR medical diagnosis, but a label that public schools may use when children, due to their behaviors, are in need of special education services. School professionals may or may not use diagnostic classification systems as part of this determination. The school's responsibility is to provide services for students with emotional or behavioral disorders or mental illnesses under the special education category of SED (many states have chosen to use a "different" label such as Emotional or Behavioral Disorder (EBD), to describe this special education service category), when their emotional or behavioral problems are so severe that they cannot succeed without help.

WHAT WE KNOW

The Disorder Named AD/HD

Occasionally, we may all have difficulty sitting still, paying attention or controlling impulsive behavior. For some people, the problems are so pervasive and persistent that they interfere with their lives, including home, academic, social and work settings.

Attention-deficit/hyperactivity disorder (AD/HD) is a common neurobiological condition affecting 5-8 percent of school age children[1,2,3,4,5,6,7] with symptoms persisting into adulthood in as many as 60 percent of cases (i.e. approximately 4% of adults).[8,9] It is characterized by developmentally inappropriate levels of inattention, impulsivity, and hyperactivity.

Although individuals with this disorder can be very successful in life, without identification and proper treatment, AD/HD may have serious consequences, including school failure, family stress and disruption, depression, problems with relationships, substance abuse, delinquency, risk for accidental injuries and job failure. Early identification and treatment are extremely important.

Medical science first documented children exhibiting inattentiveness, impulsivity and hyperactivity in 1902. Since that time, the disorder has been given numerous names, including minimal brain dysfunction, hyperkinetic reaction of childhood and attention-deficit disorder with or without hyperactivity. With the *Diagnostic and Statistical Manual, fourth edition (DSM-IV)* classification system, the disorder has been renamed attention-deficit/hyperactivity disorder, or AD/HD. The current name reflects the importance of the inattention characteristics of the disorder as well as the other characteristics of the disorder, such as hyperactivity and impulsivity.

THE SYMPTOMS

Typically, AD/HD symptoms arise in early childhood, unless associated with some type of brain injury later in life. Some symptoms persist into adulthood and may pose life-long challenges. Although the official diagnostic criteria state that the onset of symptoms must occur before age seven, leading researchers in the field of AD/HD argue that criterion should be broadened to include onset anytime during childhood.[10] The symptom-related criteria for the three primary subtypes are adapted from *DSM-IV* and summarized as follows:

" Although individuals with this disorder can be very successful in life, without proper identification and proper treatment, AD/HD may have serious consequences… "

AD/HD predominantly inattentive type: (AD/HD-I)

- Fails to give close attention to details or makes careless mistakes.
- Has difficulty sustaining attention.
- Does not appear to listen.
- Struggles to follow through on instructions.
- Has difficulty with organization.
- Avoids or dislikes tasks requiring sustained mental effort.
- Loses things.
- Is easily distracted.
- Is forgetful in daily activities.

AD/HD predominantly hyperactive-impulsive type: (AD/HD-HI)

- Fidgets with hands or feet or squirms in chair.
- Has difficulty remaining seated.
- Runs about or climbs excessively.
- Difficulty engaging in activities quietly.
- Acts as if driven by a motor.
- Talks excessively.
- Blurts out answers before questions have been completed.
- Difficulty waiting or taking turns.
- Interrupts or intrudes upon others.

AD/HD combined type: (AD/HD-C)

- Individual meets both sets of inattention and hyperactive/impulsive criteria.

Youngsters with AD/HD often experience delays in independent functioning and may therefore behave in ways more like younger children.[11] In addition, AD/HD frequently co-occurs with other conditions, such as depression, anxiety or learning disabilities. For example, in 1999, NIMH research indicated that two- thirds of children with AD/HD have a least one other co-existing condition.[12] When co-existing conditions are present, academic and behavioral problems, as well as emotional issues, may be more complex.

Teens with AD/HD present a special challenge. During these years, academic and organizational demands increase. In addition, these impulsive youngsters are facing typical adolescent issues: discovering their identity, establishing independence, dealing with peer pressure, exposure to illegal drugs, emerging sexuality, and the challenges of teen driving.

Recently, deficits in executive function have emerged as key factors impacting academic and career success.[13] Simply stated, executive function refers to the "variety of functions within the brain that activate, organize, integrate and manage other functions."[14] This permits individuals to appreciate the longer-term consequences of their actions and guide their behavior across time more effectively.[15] Critical concerns include deficits in working memory and the ability to plan for the future, as well as maintaining and shifting strategies in the service of long-term goals.

THE DIAGNOSIS

Determining if a child has AD/HD is a multifaceted process. Many biological and psychological problems can contribute to symptoms similar to those exhibited by children with AD/HD. For example, anxiety, depression and certain types of learning disabilities may cause similar symptoms. In some cases, these other conditions may actually be the primary diagnosis; in others, these conditions may co-exist with AD/HD.

There is no single test to diagnose AD/HD. Therefore, a comprehensive evaluation is necessary to establish a diagnosis, rule out other causes and determine the presence or absence of co-existing conditions. Such an evaluation requires time and effort and should include a careful history and a clinical assessment of the

individual's academic, social, and emotional functioning and developmental level. A careful history should be taken from the parents and teachers, as well as the child, when appropriate. Checklists for rating AD/HD symptoms and ruling out other disabilities are often used by clinicians; these age-normed instruments help to ensure that the symptoms are extreme for the child's developmental level.

There are several types of professionals who can diagnose AD/HD, including school psychologists, clinical psychologists, clinical social workers, nurse practitioners, neurologists, psychiatrists and pediatricians. Regardless of who does the evaluation, the use of the *Diagnostic and Statistical Manual IV* diagnostic criteria for AD/HD is necessary. A medical exam by a physician is important and should include a thorough physical examination, including assessment of hearing and vision, to rule out other medical problems that may be causing symptoms similar to AD/HD. In rare cases, persons with AD/HD also may have a thyroid dysfunction. Only medical doctors can prescribe medication if it is needed. Diagnosing AD/HD in an adult requires an evaluation of the history of childhood problems in behavior and academic domains, as well as examination of current symptoms and coping strategies. For more information, read *What We Know* #9, "Diagnosis of AD/HD in Adults."

"Research clearly indicates that AD/HD tends to run in families and that the patterns of transmission are to a large extent genetic."

THE CAUSES

Multiple studies have been conducted to discover the cause of the disorder. Research clearly indicates that AD/HD tends to run in families and that the patterns of transmission are to a large extent genetic.[16,17] More than 20 genetic studies, in fact, have shown evidence that AD/HD is strongly inherited. Yet AD/HD is a complex disorder, which is undoubtedly the result of multiple interacting genes. Other causal factors (such as low birth weight, prenatal maternal smoking, and additional prenatal problems) may contribute to other cases of AD/HD.[18,19,20,21] Problems in parenting or parenting styles may make AD/HD better or worse, but these do not cause the disorder. AD/HD is clearly a brain-based disorder. Currently research is underway to better define the areas and pathways that are involved.

PROGNOSIS AND LONG-TERM OUTCOMES

Children with AD/HD are at risk for potentially serious problems in adolescence: academic underachievement and school failure, problems in social relations, risk for antisocial behavior patterns, teen pregnancy, and adverse driving consequences.[22] As noted above, AD/HD persists from childhood to adolescence in the vast majority of cases, although the symptom area of motor activity tends to diminish with time. Furthermore, up to two-thirds of children with AD/HD continue to experience significant symptoms in adulthood. Yet many adults with AD/HD learn coping strategies and compensate quite well.[23,24] A key to good outcome is early identification and treatment.

MULTIMODAL TREATMENT

AD/HD in children often requires a comprehensive approach to treatment called "*multimodal*" and includes:

- Parent and child education about diagnosis and treatment
- Behavior management techniques
- Medication
- School programming and supports

Treatment should be tailored to the unique needs of each child and family. Research from the landmark NIMH Multimodal Treatment Study of AD/HD is very encouraging.[25] Children who received carefully monitored medication, alone or in combination with behavioral treatment, showed significant improvement in their behavior at home and school plus better relationships with their classmates and family than did children receiving lower quality care.

Psychostimulants are the most widely used class of medication for the management of AD/HD related symptoms. Approximately 70 to 80 percent of children with AD/HD respond positively to psychostimulant medications.[26] Significant academic improvement is shown by students who take these medications*: increases in* attention and concentration, compliance and effort on tasks, as well as amount and accuracy of schoolwork, plus *decreased* activity levels, impulsivity, negative

behaviors in social interactions and physical and verbal hostility.[27,28] A new, nonstimulant medication—atomoxetine--appears to have similar effects as the stimulants.

Other medications that may decrease impulsivity, hyperactivity and aggression include some antidepressants and antihypertensives. However, each family must weigh the pros and cons of taking medication (see *What We Know #3*, "Managing Medication for Children and Adolescents with AD/HD").

Behavioral interventions are also a major component of treatment for children who have AD/HD. Important strategies include being consistent and using positive reinforcement, and teaching problem-solving, communication, and self-advocacy skills. Children, especially teenagers, should be actively involved as respected members of the school planning and treatment teams (see *What We Know #7*, "Psychosocial Treatment for Children and Adolescents with AD/HD").

School success may require a variety of classroom accommodations and behavioral interventions. Most children with AD/HD can be taught in the regular classroom with minor adjustments to the environment. Some children may require special education services if an educational need is indicated. These services may be provided within the regular education classroom or may require a special placement outside of the regular classroom that meets the child's unique learning needs (see *What We Know #4* "Educational Rights for Children with AD/HD").

Adults with AD/HD may benefit from learning to structure their environment. In addition, medications effective for childhood AD/HD are also helpful for adults who have AD/HD. While little research has been done on interventions for adults, diagnosis and treatment are still important.

SUMMARY

Although the symptoms of AD/HD—inattention, impulsivity and hyperactivity—are present to some extent in most children, when these symptoms are developmentally extreme, pervasive and persistent a diagnosis of AD/HD is warranted. This diagnostic category is associated with significant impairment in family relations, peer interactions, school achievement, and risk for accidental injury, which are domains of crucial importance for healthy and successful development. Because AD/HD can become a lifelong disorder, careful diagnosis and treatment are essential. CHADD is seeking out solutions that will lead to improved quality of life for children, adolescents and adults.

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For further information about AD/HD or CHADD, please contact:

National Resource Center on AD/HD
Children and Adults with
Attention-Deficit/Hyperactivity Disorder
8181 Professional Place, Suite 150
Landover, MD 20785
1-800-233-4050
www.help4adhd.org

Please also visit the CHADD Web site at
www.chadd.org

WHAT WE KNOW

Parenting a Child with AD/HD

Often, when a child is diagnosed with AD/HD, the first response from his or her concerned parent is, "What can *I do* about it?" Although life with your child may at times seem challenging, it is important to remember that children with AD/HD can and do succeed. As a parent, you can help create home and school environments that improve your child's chances for success. The earlier you address your child's problems, the more likely you will be able to prevent school and social failure and associated problems such as underachievement and poor self-esteem that may lead to delinquency or drug and alcohol abuse.

Early intervention holds the key to positive outcomes for your child. Here are some ways to get started:

- **Don't waste limited emotional energy on self-blame.** AD/HD is the result of dysfunction in certain areas of the brain and in the majority of cases is inherited. It is *not* caused by poor parenting or a chaotic home environment, although the home environment can make the symptoms of AD/HD worse.
- **Learn all you can about AD/HD.** There is a great deal of information available on the diagnosis and treatment of AD/HD. It is up to you to act as a good consumer and *learn* to distinguish the "accurate" information from the "inaccurate." But how can you sort out what will be useful and what will not? In general, it is good to be wary about ads claiming to cure AD/HD. Currently, there is no cure for AD/HD, but you can take positive steps to decrease its impact.

- **Make sure your child has a comprehensive assessment.** To complete the diagnostic process, make sure your child has a comprehensive assessment that includes medical, educational, and psychological evaluations and that other disorders that either mimic or commonly occur with AD/HD have been considered and ruled out.

Multimodal treatment for children and adolescents with AD/HD consists of:

- Parent and child education about diagnosis and treatment;
- Behavior management techniques;
- Medication; and
- School programming and supports.

Treatment should be tailored to the unique needs of each child and family.

HOW TO ENSURE YOUR CHILD'S SUCCESS AT SCHOOL

- **Become an effective case manager.** Keep a record of all information about your child. This includes copies of all evaluations and documents from any meetings concerning your child. You might also include information about AD/HD, a record of your child's prior treatments and placements, and contact information for the professionals who have worked with your child.
- **Take an active role in forming a team that understands AD/HD and wants to help your child.** Meetings at your child's school should be attended by the principal's designee, as well as a special educator and a classroom teacher that knows your child. You, however, have the right to request input at these meetings from others that understand AD/HD or your child's special needs. These include your child's physician, the school psychologist, and the nurse or guidance counselor from your child's school. If you have consulted other professionals, such as a psychiatrist, educational advocate or behavior management specialist, the useful information they have provided should also be made available at these meetings. A thorough understanding of your child's strengths and weaknesses and how AD/HD affects him will help you and members of this team go on to develop an appropriate and effective program that takes into account his or her AD/HD.
- **Learn all you can about AD/HD and your child's educational rights.** The more knowledge you have about your child's rights under the two education laws—the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act—the better the chance that you will maximize his or her success. Each state has a parent training and information center that can help you learn more about your child's rights (visit www.taalliance.org/centers to find the center in your state).
- **Become your child's best advocate.** You may have to represent or protect your child's best interest in school situations, both academic and behavioral. Become an active part of the team that determines what services and placements your child receives in an Individualized Education Plan (IEP) or Section 504 plan. See CHADD fact sheet #4, "Educational Rights for Children with AD/HD," for more information.

"The more knowledge you have about your child's rights under two education laws—IDEA and Section 504—the better the chance that you will maximize his or her success."

HOW TO MAKE LIFE AT HOME EASIER

- **Join a support group.** Parents will find additional information, as well as support, by attending local CHADD meetings where available. You can find the nearest chapter to your home on http://www.chadd.org chapter locator.
- **Seek professional help.** Ask for help from professionals, particularly if you are feeling depressed, frustrated and exhausted. Helping yourself feel less stressed will benefit your child as well.
- **Work together to support your child.** It is important that all of the adults that care for your child (parents, grandparents, relatives, and babysitters) agree on how to approach or handle your child's

problem behaviors. Working with a professional, if needed, can help you better understand how to work together to support your child.

- **Learn the tools of successful behavior management.** Parent training will teach you strategies to change behaviors and improve your relationship with your child. Identify parent training classes in your community through your local parent information and resource center (http://www.federalresourcecenter.org/frc/TAGuide/welcome.htm) or parent training and information center (http://www.taalliance.org/centers).
- **Find out if you have AD/HD.** Since AD/HD is generally inherited, many parents of children with AD/HD often discover that they have AD/HD when their child is diagnosed. Parents with AD/HD may need the same types of evaluation and treatment that they seek for their children in order to function at their best. AD/HD in the parent may make the home more chaotic and affect parenting skills.

PARENT TRAINING WILL HELP YOU LEARN TO:

- **Focus on certain behaviors and provide clear, consistent expectations, directions and limits.** Children with AD/HD need to know exactly what others expect from them. They do not perform well in ambiguous situations that don't specify exactly what is expected and that require they read between the lines.

"Many children with AD/HD have strengths in certain areas such as art, athletics, computers or mechanical ability. Build upon these strengths."

Working with a professional can help you narrow the focus to a few specific behaviors and help you set limits, and consistently follow through.

- **Set up an effective discipline system.** Parents should learn proactive—not reactive—discipline methods that teach and reward appropriate behavior and respond to misbehavior with alternatives such as "time out" or loss of privileges.
- **Help your child learn from his or her mistakes.** At times, negative consequences will arise naturally out of a child's behavior. However, children with AD/HD have difficulty making the connection between their behaviors and these consequences. Parents can help their child with AD/HD make these connections and learn from his or her mistakes.

HOW TO BOOST YOUR CHILD'S CONFIDENCE

- **Tell your child that you love and support him or her unconditionally.** There will be days when you may not believe this yourself. Those will be the days when it is even more important that you acknowledge the difficulties your child faces on a daily basis, and express your love. Let your child know that you will get through the smooth and rough times together.
- **Assist your child with social skills.** Children with AD/HD may be rejected by peers because of hyperactive, impulsive or aggressive behaviors. Parent training can help you learn how to assist your child in making friends and learning to work cooperatively with others.
- **Identify your child's strengths.** Many children with AD/HD have strengths in certain areas such as art, athletics, computers or mechanical ability. Build upon these strengths, so that your child will have a sense of pride and accomplishment. Make sure that your child has the opportunity to be successful while pursuing these activities and that his strengths are not undermined by untreated AD/HD. Also, avoid, as much as possible, targeting these activities as contingencies for good behavior or withholding them, as a form of punishment, when your child with AD/HD misbehaves.
- **Set aside a daily "special time" for your child.** Constant negative feedback can erode a child's self-esteem. A "special time," whether it's an outing, playing games, or just time spent in positive interaction, can help fortify your child against assaults to self-worth.

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Please also visit the CHADD Web site at **www.chadd.org**.

Attention Deficit/ Hyperactivity Disorder

Does your child have trouble paying attention?

Does he or she talk nonstop or have trouble staying still?

Does your child have a hard time controlling his or her behavior?

For some children, these may be symptoms of attention deficit/ hyperactivity disorder, or ADHD.

Attention Deficit/ Hyperactivity Disorder

What is attention deficit/hyperactivity disorder, or ADHD?

ADHD is a common childhood disorder, and it may affect children differently. It makes it hard for a child to focus and pay attention. Some kids may be hyperactive or have trouble being patient. ADHD can make it hard for a child to do well in school or behave at home.

ADHD can be treated. Doctors and specialists can help.

Who can develop ADHD?

Children of all backgrounds can have ADHD. Teens and adults can have ADHD too.

What causes ADHD?

No one knows for sure. ADHD probably comes from a combination of things. Some possibilities are:

- **Genes**, because the disorder sometimes runs in families
- **Lead** in old paint and plumbing parts
- **Smoking and drinking** alcohol during pregnancy
- **Certain brain injuries**
- **Food additives** like artificial coloring, which might make hyperactivity worse.

Some people think **refined sugar causes ADHD**. But most research does not support the idea that sugar causes ADHD.

What are the symptoms of ADHD?

ADHD has many symptoms. Some symptoms at first may look like normal behaviors for a child, but ADHD makes them much worse and occur more often. Children with ADHD have at least six symptoms that start in the first five or six years of their lives.

Children with ADHD may:

- Get distracted easily and forget things often
- Switch too quickly from one activity to the next
- Have trouble with directions
- Daydream too much
- Have trouble finishing tasks like homework or chores
- Lose toys, books, and school supplies often
- Fidget and squirm a lot
- Talk nonstop and interrupt people
- Run around a lot
- Touch and play with everything they see
- Be very impatient
- Blurt out inappropriate comments
- Have trouble controlling their emotions.

How do I know if my child has ADHD?

Your child's doctor may make a diagnosis. Or sometimes the doctor may refer you to a mental health specialist who is more experienced with ADHD to make a diagnosis. There is no single test that can tell if your child has ADHD.

It can take months for a doctor or specialist to know if your child has ADHD. He or she needs time to watch your child and check for other problems. The specialist may want to talk to you, your family, your child's teachers, and others.

Sometimes it can be hard to diagnose a child with ADHD because symptoms may look like other problems. For example, a child may seem quiet and well-behaved, but in fact he or she is having a hard time paying attention and is often distracted. Or, a child may act badly in school, but teachers don't realize that the child has ADHD.

If your child is having trouble at school or at home and has been for a long time, ask his or her doctor about ADHD.

How do children with ADHD get better?

Children with ADHD can get better with treatment, but there is no cure. There are three basic types of treatment:

1. Medication. Several medications can help. The most common types are called stimulants. Medications help children focus, learn, and stay calm.

Sometimes medications cause side effects, such as sleep problems or stomachaches. Your child may need to try a few medications to see which one works best. It's important that you and your doctor watch your child closely while he or she is taking medicine.

2. Therapy. There are different kinds of therapy. Behavioral therapy can help teach children to control their behavior so they can do better at school and at home.

3. Medication and therapy combined. Many children do well with both medication and therapy.

How can I help my child?

Give your child guidance and understanding. A specialist can show you how to help your child make positive changes. Supporting your child helps everyone in your family. Also, talk to your child's teachers. Some children with ADHD can get special education services.

How does ADHD affect teens?

Being a teenager isn't always easy. Teens with ADHD can have a tough time. School may be a struggle, and some teens take too many risks or break rules. But like children with ADHD, teens can get better with treatment.

What can I do for my teen with ADHD?

Support your teen. Set clear rules for him or her to follow. Try not to punish your teen every time he or she breaks the rules. Let your teen know you can help.

Can adults have ADHD too?

Many adults have ADHD and don't know they have it. Like ADHD in children and teens, ADHD in adults can make life challenging. ADHD can make it hard for adults to feel organized, stick with a job, or get to work on time. Adults with ADHD may have trouble in relationships. The disorder can also make adults feel restless.

ADHD in adults can be diagnosed and treated. For some adults, finding out they have ADHD can be a big relief. Being able to connect ADHD to longtime problems helps adults understand that they can get better. If you're an adult and think you may have ADHD symptoms, call your doctor.

Contact us to find out more about ADHD.

NIMH
National Institute of Mental Health

National Institute of Mental Health
Science Writing, Press & Dissemination Branch
6001 Executive Boulevard
Room 8184, MSC 9663
Bethesda, MD 20892-9663
Toll-free: 1–866–615–NIMH (6464)
TTY Toll-free: 1–866–415–8051
E-mail: nimhinfo@nih.gov
Web site: http://www.nimh.nih.gov

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Attention-deficit/Hyperactivity Disorder (ADHD)

What is ADHD?

Attention-deficit/Hyperactivity Disorder (ADHD) is a neurobiological disorder that is characterized by developmentally inappropriate levels of inattention, impulsivity, and hyperactivity. Between 3% and 7% of school-aged children are affected by ADHD.[1,2] **ADHD is a lifespan condition that affects children, adolescents and adults of all ages.** It affects both males and females, and people of all races and cultural backgrounds.

History of ADHD

In 1902, the medical field began documenting children exhibiting symptoms of inattentiveness, impulsivity and hyperactivity.[3] Since this time, the disorder has been given numerous labels which include: minimal brain dysfunction, hyperkinetic reaction of childhood, and attention-deficit disorder with or without hyperactivity. With the most recent version of the Diagnostic and Statistical Manual (DSM-IV) classification system, the disorder was renamed Attention-deficit/Hyperactivity Disorder or ADHD.

While some individuals, including many professionals and the media, still refer to the condition as "ADD" (Attention Deficit Disorder), this term is no longer in widespread use.

Onset of ADHD

Typically symptoms of ADHD first appear in early childhood. Many symptoms persist into adulthood and can pose life-long challenges in areas such as relationships, work, and home. Current DSM-IV diagnostic criteria state that the onset of symptoms must first occur before the age of seven. However, many leading researchers within the field of ADHD have argued that the criterion should expand the age range to include onset at anytime during childhood.[4]

What Causes ADHD?

Current research has found strong evidence that the primary cause of ADHD is genetic, due to the combined effect of several different genes.[5] This means that ADHD runs in families. If a parent has ADHD, his or her child has more than a 50% chance of also being diagnosed with ADHD. Although environmental factors and prenatal and post-natal injuries can play a role in the cause of ADHD, twin studies have shown that 80% of problems with inattention, hyperactivity and impulsivity are the results of genetic factors.[6]

Current research does not support the idea that ADHD is caused by excessive sugar intake, food additives, excessive viewing of television, or poor parenting skills.

LDA Minnesota

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5354 Parkdale Drive, Suite 200 ■ St. Louis Park, MN 55416
(952) 922-8374 ■ www.ldaminnesota.org
Learning Disabilities Association of Minnesota

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ADHD Subtypes

Within ADHD there are three primary subtypes: ADHD predominantly inattentive type, ADHD predominantly hyperactive-impulsive type, and ADHD combined type. A diagnosis of one type or another depends on the specific symptoms (i.e., the "diagnostic criteria") that person exhibits. For a diagnosis of ADHD, six or more of the symptoms must be present. In addition, the symptoms must not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder.

ADHD inattentive type

- Often fails to give close attention to details or makes careless mistakes
- Often has difficulty sustaining attention in tasks
- Often does not seem to listen when spoken to directly
- Often does not follow through on instructions and fails to finish tasks
- Often has difficulty organizing work and activities
- Often avoids or dislikes tasks that require sustained mental effort
- Often loses things necessary for tasks or activities
- Is often easily distracted by extraneous stimuli
- Is often forgetful in daily activities

ADHD hyperactive-impulsive type

- Often fidgets with hands or feet or squirms in seat
- Often leaves seat in situations in which remaining seated is expected
- Often runs about or is otherwise physically active in situations where inappropriate (in adolescents and adults, may be limited to subjective feelings of restlessness)
- Often has difficulty playing or engaging in leisure activities quietly
- Is often "on the go" or often acts as if "driven by a motor"
- Often talks excessively
- Often blurts out answers before questions have been completed
- Often has difficulty awaiting turn
- Often interrupts or intrudes on others

ADHD combined type

Individual meets both sets of inattentive and hyperactive / impulsive criteria.

In addition to the symptoms listed above, the presence of significant impairment in two or more major life settings must occur in order to diagnose ADHD.

Adults and ADHD

In the past, it was widely believed that children outgrew ADHD by the time they reached adolescence since hyperactivity often diminishes during the teen years. However, it is now known that ADHD is a lifespan disorder and symptoms often persist from childhood through adolescence and into adulthood. Research suggests that among those children clinically diagnosed with the disorder in childhood, up to 65 percent may continue to meet diagnostic criteria in adulthood. Adults who have retained some, but not all, of the symptoms of childhood ADHD may be diagnosed as having ADHD in partial remission. Whether or not they continue to meet the full diagnostic criteria for ADHD in adulthood, at least 50-70 percent may continue to manifest some symptoms that cause some level of impairment in their adult life.[7] Current research has found that roughly 2 to 4 percent of adults have ADHD.

Research on adult ADHD is still in an early stage of development. The current criteria for ADHD emphasize a childhood presentation, and there is a growing body of evidence that suggests that the diagnostic features of ADHD take a different form in adults. [8] One example of this is within the area of hyperactivity. Although hyperactivity can be a common feature among children with ADHD, it is likely to be less overt in adults. The "on the go" behavior seen in children with ADHD is replaced in adults with restlessness, difficulty relaxing, and a feeling of chronically being on edge.

Recently a new set of diagnostic symptoms for adults was proposed by Drs. Barkley and Murphy at the CHADD 18th Annual Conference in Chicago. In order to develop this new set of diagnostic symptoms, Dr. Barkley and Kevin Murphy, Ph.D., conducted a comprehensive study of the symptoms of ADHD in adults in order to identify the potential most predictive symptoms for diagnosis. In order to be diagnosed with ADHD, an adult would need to have six out of nine of the following proposed symptoms: [9]

1. Often easily distracted by extraneous stimuli
2. Often makes decisions impulsively
3. Often has difficulty stopping activities or behavior when he or she should do so
4. Often starts a project or task without reading or listening to directions carefully
5. Often shows poor follow-through on promises or commitments he or she makes to others
6. Often has trouble doing things in their proper order or sequence
7. Often more likely to drive a motor vehicle much faster than others
8. Often has difficulty sustaining attention in tasks or leisure activities
9. Often has difficulty organizing tasks and activities

Strategies for Teaching ADHD Adults

Some of the difficulties adults with ADHD may have in a learning environment include procrastination, poor organization and time management resulting in academic underachievement, poor self-esteem, and difficulty keeping current with assignments and reading. Distractibility and difficulty focusing can lead to problems with reading comprehension, note-taking, and completing assignments and tests in a timely fashion. The following strategies can be used to help address some of the impediments listed above.

Problem solving:

- Teach learners explicit steps for problem solving.
- When faced with a problem, help learners brainstorm potential solutions to the problem and discuss the pros and cons of each solution.

Poor sense of time, poor organization skills:

- Be predictable: Structure and consistency is important for adults with ADHD. Coach them on how to prioritize tasks for themselves.
- Help learners determine the amount of time an activity will take by having them keep a time log. Prior to starting this, have the learners predict the time that will be required for the activity.
- Set alarms on PDAs, watches or phones that will signal learners when it is time to move on to the next task.
- Teach learners how to use a daily planner. Planner must work for the learners and require minimal effort and upkeep.
- Identify all of the materials learners will need during a session, rather than having them identify the needed materials as they are working on an assignment. Coach them to have a plan for what to do if they get stuck so they don't waste time.
- Tell learners at the beginning of a lesson how much time they will have to complete it.
- Provide advance warning that a lesson is about to end. Announce 5-10 minutes before the end of a lesson how much time remains.

Poor comprehension, lack of self-monitoring:

- Prepare learners for their lesson by giving them an outline of the material that will be covered during the session. Point out or discuss key concepts or vocabulary prior to reading so learners can focus on relevant details.
- Review previous information learned on a topic before covering new information. Help learners link the old information with the new information. At end of lesson, require learners to sum up new content that was covered.
- When reading, encourage learners to make short notes in the margins that summarize the main idea of a paragraph. If the reading passage is difficult, have learners summarize the main idea of every 2-3 sentences.

- Use cooperative learning strategies. Examples of this include:
    1. Peer coaching: Learners take turns being the instructor and leading their peers in using comprehension strategies.
    2. Reciprocal questioning: As learners progress through a reading passage, they take turns discussing what they are reading and how it relates to previous information they have read. Reciprocal questioning is a technique that allows learners to check their comprehension by asking each other questions.
    3. Think-Pair-Share: In this strategy teacher asks learners to think about a topic, pairs learners to discuss the topic, and then has pairs share ideas with the group.
- Highlight key words in the instructions or worksheets to help learners focus on key instructions. When reading, show learners how to identify and highlight a key sentence, or have them write the key sentence on a separate sheet of paper. In math, show learners how to underline the important facts or operations needed to solve a problem.

Difficulty getting started on activities, persisting, managing frustration and diminished motivation:

- Help learners break large projects into smaller tasks. Once tasks have been identified, help learners attach due dates to each step and check in with them to monitor progress.
- Set mini-goals throughout a project and have learners earn rewards along the way to increase motivation.
- Rotate between subjects that the learners find interesting and boring.
- Limit time spent on each task.
- Place learning in a meaningful or authentic context. For example, use real life situations to illustrate a concept.

Resources:

CHADD: Children and Adults with ADHD. http://www.chadd.org
Attention Deficit Disorder Association. http://www.add.org
Attention Deficit Disorder Resources. http://www.addresources.org
Nadeau, K.G. (1997). *ADD in the Workplace*. Bristol, PA: Brunner/Mazel, Inc.
Kohlberg, J. (2002). *ADD-Friendly Ways to Organize Your Life*. Routledge Press.

For further consultation on ADHD, call Becky Lawyer, ADHD Specialist, at 952-922-8374. LDA also offers Diagnostic Assessments for ABE metro learners that will "rule in" ADHD. If you have questions about this new assessment, or have students who might benefit from it, call Mike Anderson, Assessment Specialist, at 952-922-8374.

References:

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[8] Searight, R.H., Burke, J.M., Rottnek, F. (2000). Adult ADHD: Evaluation and treatment in family medicine. *American Family Physicians, 62,* 2077-86, 2091-2.
[9] Barkley, R.A., Murphy, K.R. & Fischer, M. (2007). AD/HD in Adults: Original Research, Integration and Clinical Implications. New York: Guilford Publications.

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What Is An Emotional or Behavioral Disorder?

Although childhood is generally regarded as a carefree time of life, many children and adolescents experience emotional difficulties growing up. Identifying an emotional or behavioral disorder is difficult for many reasons. For instance, it cannot be stated with certainty that something "goes wrong" in the brain, causing a child to act in a particular way. Contrary to early psychiatric theories, it is impossible to conclude that a mother or father did something wrong early in a child's life, causing an emotional or behavioral disorder. The question of who or what is responsible for a child's problems has given way to an understanding that the combinations of factors affecting development – biological, environmental, psychological - are almost limitless.

Children's behaviors exist on a continuum, and there is no specific line that separates troubling behavior from a serious emotional problem. Rather, a problem can range from mild to serious. A child is said to have a specific "diagnosis" or "disorder" when his or her behaviors occur frequently and are severe. A diagnosis represents a "best guess" based on a child's behaviors that he or she has a specific mental health disorder and not just a problem that all children might have from time to time. Research on the cause of emotional disorders has shown that the way the brain receives and processes information is different for children with some types of disorders than for those who do not have those problems. However, this is not true for all children with emotional disorders.

There have been many recent advances in understanding the emotional problems of children and adolescents. As technologies are developed to study the central nervous system and the relationships between brain chemistry and behavior, the research is providing new understanding of how and why some children develop emotional disorders. Still interviews with the child, parents or other family members remain one of the most important sources of information to help professionals arrive at a diagnosis.

A diagnosis of a mental health disorder will be based on one of several classification systems used in the United States. The most familiar system is the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Revised.* The DSM-IVR contains descriptions of specific behavioral characteristics that are used to determine whether a child or adult has an emotional or mental disorder. The criteria that establishes the presence of a mental health disorder are subject to interpretation that may vary from professional to professional. Cultural and subjective criteria such as race, socioeconomic status, or the behaviors of the child's parents at the time of evaluation have an effect on professional opinion, as does the training of the professional and his or her years of experience.

A DSM-IVR diagnosis serves several purposes. First, it may establish the presence of a specific mental health problem which has an accepted treatment standard, such as the use of medication in treating depression. Second, a formal diagnosis may be required for insurance or Medicaid reimbursement. A diagnosis for a child may mean that insurance may cover the costs of services the child needs but would not be eligible for without the diagnosis.

Parents should bring up issues they believe may influence their child's diagnosis during the evaluation. These influences must be considered by the evaluator in making a diagnosis. Generally, determining whether a child has a biologically based mental illness, a behavioral problem or an emotional disorder is not as important to a family as determining what interventions are the most useful to help support their child. What an evaluation *should* yield, regardless of whether a child's problems result in a *diagnosed disorder* or something less definitive, is a set of recommendations for how to support him or her in developing necessary skills.

The question about whether a child needs help should not depend on whether he or she has a diagnosis. A problem does not disappear simply because it is not severe enough to meet the

PACER CENTER
CHAMPIONS FOR CHILDREN WITH DISABILITIES
8161 Normandale Blvd
Minneapolis, MN 55437-1044
952.838.9000
952.838.0190 TTY
952.838.0199 fax
pacer@pacer.org
www.PACER.org

criteria for a diagnosis. Parents should insist on a list of specific written recommendations for how to help their child as a result of any evaluation.

The DSM IVR, for instance, lists eighteen separate characteristics of behavior attributed to attention deficit hyperactivity disorder (ADHD). If a child shows six signs of inattention or six signs of hyperactivity and impulsivity, he or she may be given a clinical diagnosis of ADHD. This means that the mental health professional working with the child believes that the child has a medically-based problem and may recommend a specific therapy, such as medication. But the characteristics by which ADHD is diagnosed are also open to interpretation. What does it mean to say that a child is "often distracted by extraneous stimuli?" How often is often? What does distracted by mean? And what happens to the child who shows only five signs of inattention and therefore does not have ADHD, but is still failing in school and is unable to stay focused on his or her work?

Different professionals view emotional and behavioral disorders in different ways. Their outlook—and their treatment plan—is usually shaped by their training, their experience, and their philosophy about the origins of a child's problems. Though the philosophical orientation or direction may not seem important to parents who are frantically seeking a way to locate help for their child, it is still recommended that parents discuss such beliefs with professionals they contact. Since the treatment program for a child will stem from the professional's philosophy, parents should be sure they agree with "where the professional is coming from," as well as with the methods used by the professional to help their child. Otherwise, their cooperation in the treatment process may be compromised. When seeking a treatment program for a child, parents may also want to seek a second opinion if they disagree with the approach suggested by the first mental health professional.

The following examples of emotional and behavioral disorders are from the DSM-IVR diagnostic criteria. This list is not comprehensive, but is included to give parents examples of emotional disorders affecting children and youth.

Adjustment Disorders describe emotional or behavioral symptoms that children may exhibit when they are un- able, for a time, to appropriately adapt to stressful events or changes in their lives. The symptoms, which must occur within three months of a stressful event or change, and last no more than six months after the stressor ends, are: marked distress, in excess of what would be expected from exposure to the event(s), or an impairment in social or school functioning. There are many kinds of behaviors associated with different types of adjustment disorders, ranging from fear or anxiety to truancy, vandalism, or fighting. Adjustment disorders are relatively common, ranging from 5% to 20%.

Anxiety Disorders are a large family of disorders (school phobia, posttraumatic stress disorder, avoidant disorder, obsessive-compulsive disorder, panic disorder, panic attack, etc.) where the main feature is exaggerated anxiety. Anxiety disorders may be expressed as physical symptoms, (headaches or stomach aches), as disorders in conduct (work refusal, etc.) or as inappropriate emotional responses, such as giggling or crying. Anxiety occurs in all children as a temporary reaction to stressful experiences at home or in school When anxiety is intense and persistent, interfering with the child's functioning, it may become deemed as an Anxiety Disorder.

Obsessive-Compulsive Disorder (OCD) which occurs at a rate of 2.5%, means a child has recurrent and persistent obsessions or compulsions that are time consuming or cause marked distress or significant impairment. Obsessions are persistent thoughts, impulses, or images that are intrusive and inappropriate (repeated doubts, requirements to have things in a specific order, aggressive impulses, etc.). Compulsions are repeated behaviors or mental acts (hand washing, checking, praying, counting, repeating words silently, etc.) that have the intent of reducing stress or anxiety. Many children with OCD may know that their behaviors are extreme or unnecessary, but are so driven to complete their routines that they are unable to stop.

Post-Traumatic Stress Disorder (PTSD) can develop following exposure to an extremely traumatic event or series of events in a child's life, or witnessing or learning about a death or injury to someone close to the child. The symptoms must occur within one month after exposure to the stressful event. Responses in children include intense fear, helplessness, difficulty falling asleep, nightmares, persistent re-experiencing of the event, numbing of general responsiveness, or increased arousal. Young children with PTSD may repeat their experience in daily play activities, or may lose recently acquired skills, such as toilet training or expressive language skills.

Selective Mutism (formerly called Elective-Mutism) occurs when a child or adolescent persistently fails to speak in specific social situations such as at school or with playmates, where speaking is expected. Selective mutism interferes with a child's educational achievement and social communication. Onset of Selective Mutism usually occurs before the age of five, but may not be evaluated until a child enters school for the first time. The disorder is regarded as relatively rare, and usually lasts for

a period of a few months, although a few children have been known not to speak in school during their entire school career.

Attention Deficit/Hyperactivity Disorder is a condition, affecting 3%-5% of children, where the child shows symptoms of inattention that are not consistent with his or her developmental level. The essential feature of Attention Deficit Hyperactivity Disorder is "a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than is typically observed in individuals at a comparable level of development." A few doctors have written articles on ADHD in early childhood, and some suggest that signs of the disorder can be detected in infancy. Most physicians prefer to wait until a clear pattern of inattentive behaviors emerge that affect school or home performance before attempting to diagnose ADHD. Medications, such as Ritalin or Dexedrine, or a combination of these and other medicines have been very successful in treating ADHD.

Oppositional Defiant Disorder. The central feature of oppositional defiant disorder (ODD), which occurs at rates of 2 to 16%, is "a recurrent pattern of negativistic, defiant, disobedient and hostile behaviors towards authority figures, lasting for at least six months …" The disruptive behaviors of a child or adolescent with ODD are of a less severe nature than those with Conduct Disorder, and typically do not include aggression toward people or animals, destruction of property, or a pattern of theft or deceit. Typical behaviors include arguing with adults, defying or refusing to follow adult directions, deliberately annoying people, blaming others, or being spiteful or vindictive.

Conduct Disorder, which affects between 6% and 16% of boys and 2% to 9% of girls, has as the essential feature "a repetitive and persistent. pattern of behavior in which the basic rights of others or major age-appropriate social norms or rules are violated." Children with Conduct Disorder often have a pattern of staying out late de- spite parental objections, running away from home, or being truant from school. Children with Conduct Disorder may bully or threaten others or may be physically cruel to animal and people. Conduct Disorder is often associated with an early onset of sexual behavior, drinking, smoking, and reckless and risk-taking acts.

Anorexia Nervosa can be thought of as a "distorted body image" disorder, since many adolescents who have Anorexia see themselves as overweight and unattractive. In Anorexia Nervosa, the individual refuses to maintain a minimally normal body weight, is intensely afraid of gaining weight, and has no realistic idea of the shape and size of his or her body. Signs of anorexia nervosa include extremely low body weight, dry skin, hair loss, depressive symptoms, constipation, low blood pressure, and bizarre behaviors, such as hiding food or binge eating.

Bulimia Nervosa is characterized by episodes of "binge and purge" behaviors, where the person will eat enormous amounts of food, then induce vomiting, abuse laxatives, fast, or follow an austere diet to balance the effects of dramatic overeating. Essential features are binge eating and compensatory methods to prevent weight gain. Bulimia Nervosa symptoms include the loss of menstruation, fatigue or muscle weakness, gastrointestinal problems or intolerance of cold weather. Depressive symptoms may follow a binge and purge episode.

Bipolar Disorder (Manic Depressive Disorder) has symptoms that include an alternating pattern of emotional highs and emotional lows or depression. The essential feature of Bipolar 1 Disorder is "a clinical course that is characterized by the occurrence of one or more Manic Episodes (a distinct period during which there is an abnormally and persistently elevated, expansive or irritable mood), or Mixed Episodes (a period of time lasting at least one week in which the criteria are met both for a Manic Episode and a Depressive Episode nearly every day)." There are six different types of Bipolar 1 Disorder, reflecting variations in manic and depressive symptoms.

Major Depressive Disorder occurs when a child has a series of two or more major depressive episodes, with at least a two-month interval between them. Depression may be manifested in continuing irritability or inability to get along with others, and not just in the depressed affect. In Dysthymic Disorder, the depressed mood must be present for more days than not over a period of at least two years. Dysthymic Disorder and Major Depressive Disorder are differentiated based on severity, chronicity, and persistence. Usually, Major Depressive Disorder can be distinguished from the person's usual functioning, whereas Dysthymic Disorder is characterized by chronic, less severe depressive symptoms that have been present for many years.

Autistic Disorder is a Pervasive Developmental Disorder, characterized by the presence of markedly abnormal or impaired development in social interaction and communication, and a markedly restricted level of activities or interests. Children with Autism may fail to develop relationships with peers of the same age, and may have no interest in establishing friendships. The impairment in communication (both verbal and nonverbal) is severe for some children with this disorder.

Schizophrenia is a serious emotional disorder characterized by loss of contact with environment and personality changes. Hallucinations and delusions, disorganized speech, or catatonic behavior often exist as symptoms of this disorder, which is frequently manifest in young adulthood. The symptoms may also occur in younger children. There are a number of subtypes of schizophrenia, including Paranoid Type, Disorganized Type, Catatonic Type, Residual Type, and Undifferentiated Type. The lifetime prevalence of Schizophrenia is estimated at between 0.5% and 1%.

Tourette's Disorder occurs in approximately 4-5 individuals per 10,000. The disorder includes both multiple motor tics and one or more vocal tics, which occur many times per day, nearly every day, or intermittently throughout a period of more than one year. During this period, there is never a tic-free period of more than 3 consecutive months. Chronic Motor or Vocal Tic Disorder includes either motor ties or vocal tics, but not both as in Tourette's Disorder. Transient Tic Disorder includes either single or multiple motor tics many times a day for at least four weeks, but for no longer than 12 months. This can occur as either a single episode or as recurrent episodes over time.

Seriously Emotionally Disturbed, or SED, is not a DSM-IVR medical diagnosis, but a label that public schools may use when children, due to their behaviors, are in need of special education services. School professionals may or may not use diagnostic classification systems as part of this determination. The school's responsibility is to provide services for students with emotional or behavioral disorders or mental illnesses under the special education category of SED (many states have chosen to use a "different" label such as Emotional or Behavioral Disorder (EBD), to describe this special education service category), when their emotional or behavioral problems are so severe that they cannot succeed without help.

WHAT WE KNOW

The Disorder Named AD/HD

Occasionally, we may all have difficulty sitting still, paying attention or controlling impulsive behavior. For some people, the problems are so pervasive and persistent that they interfere with their lives, including home, academic, social and work settings.

Attention-deficit/hyperactivity disorder (AD/HD) is a common neurobiological condition affecting 5-8 percent of school age children[1,2,3,4,5,6,7] with symptoms persisting into adulthood in as many as 60 percent of cases (i.e. approximately 4% of adults).[8,9] It is characterized by developmentally inappropriate levels of inattention, impulsivity, and hyperactivity.

Although individuals with this disorder can be very successful in life, without identification and proper treatment, AD/HD may have serious consequences, including school failure, family stress and disruption, depression, problems with relationships, substance abuse, delinquency, risk for accidental injuries and job failure. Early identification and treatment are extremely important.

Medical science first documented children exhibiting inattentiveness, impulsivity and hyperactivity in 1902. Since that time, the disorder has been given numerous names, including minimal brain dysfunction, hyperkinetic reaction of childhood and attention-deficit disorder with or without hyperactivity. With the *Diagnostic and Statistical Manual, fourth edition (DSM-IV)* classification system, the disorder has been renamed attention-deficit/hyperactivity disorder, or AD/HD. The current name reflects the importance of the inattention characteristics of the disorder as well as the other characteristics of the disorder, such as hyperactivity and impulsivity.

THE SYMPTOMS

Typically, AD/HD symptoms arise in early childhood, unless associated with some type of brain injury later in life. Some symptoms persist into adulthood and may pose life-long challenges. Although the official diagnostic criteria state that the onset of symptoms must occur before age seven, leading researchers in the field of AD/HD argue that criterion should be broadened to include onset anytime during childhood.[10] The symptom-related criteria for the three primary subtypes are adapted from *DSM-IV* and summarized as follows:

" Although individuals with this disorder can be very successful in life, without proper identification and proper treatment, AD/HD may have serious consequences… "

AD/HD predominantly inattentive type: (AD/HD-I)

- Fails to give close attention to details or makes careless mistakes.
- Has difficulty sustaining attention.
- Does not appear to listen.
- Struggles to follow through on instructions.
- Has difficulty with organization.
- Avoids or dislikes tasks requiring sustained mental effort.
- Loses things.
- Is easily distracted.
- Is forgetful in daily activities.

AD/HD predominantly hyperactive-impulsive type: (AD/HD-HI)

- Fidgets with hands or feet or squirms in chair.
- Has difficulty remaining seated.
- Runs about or climbs excessively.
- Difficulty engaging in activities quietly.
- Acts as if driven by a motor.
- Talks excessively.
- Blurts out answers before questions have been completed.
- Difficulty waiting or taking turns.
- Interrupts or intrudes upon others.

AD/HD combined type: (AD/HD-C)

- Individual meets both sets of inattention and hyperactive/impulsive criteria.

Youngsters with AD/HD often experience delays in independent functioning and may therefore behave in ways more like younger children.[11] In addition, AD/HD frequently co-occurs with other conditions, such as depression, anxiety or learning disabilities. For example, in 1999, NIMH research indicated that two- thirds of children with AD/HD have a least one other co-existing condition.[12] When co-existing conditions are present, academic and behavioral problems, as well as emotional issues, may be more complex.

Teens with AD/HD present a special challenge. During these years, academic and organizational demands increase. In addition, these impulsive youngsters are facing typical adolescent issues: discovering their identity, establishing independence, dealing with peer pressure, exposure to illegal drugs, emerging sexuality, and the challenges of teen driving.

Recently, deficits in executive function have emerged as key factors impacting academic and career success.[13] Simply stated, executive function refers to the "variety of functions within the brain that activate, organize, integrate and manage other functions."[14] This permits individuals to appreciate the longer-term consequences of their actions and guide their behavior across time more effectively.[15] Critical concerns include deficits in working memory and the ability to plan for the future, as well as maintaining and shifting strategies in the service of long-term goals.

THE DIAGNOSIS

Determining if a child has AD/HD is a multifaceted process. Many biological and psychological problems can contribute to symptoms similar to those exhibited by children with AD/HD. For example, anxiety, depression and certain types of learning disabilities may cause similar symptoms. In some cases, these other conditions may actually be the primary diagnosis; in others, these conditions may co-exist with AD/HD.

There is no single test to diagnose AD/HD. Therefore, a comprehensive evaluation is necessary to establish a diagnosis, rule out other causes and determine the presence or absence of co-existing conditions. Such an evaluation requires time and effort and should include a careful history and a clinical assessment of the

individual's academic, social, and emotional functioning and developmental level. A careful history should be taken from the parents and teachers, as well as the child, when appropriate. Checklists for rating AD/HD symptoms and ruling out other disabilities are often used by clinicians; these age-normed instruments help to ensure that the symptoms are extreme for the child's developmental level.

There are several types of professionals who can diagnose AD/HD, including school psychologists, clinical psychologists, clinical social workers, nurse practitioners, neurologists, psychiatrists and pediatricians. Regardless of who does the evaluation, the use of the *Diagnostic and Statistical Manual IV* diagnostic criteria for AD/HD is necessary. A medical exam by a physician is important and should include a thorough physical examination, including assessment of hearing and vision, to rule out other medical problems that may be causing symptoms similar to AD/HD. In rare cases, persons with AD/HD also may have a thyroid dysfunction. Only medical doctors can prescribe medication if it is needed. Diagnosing AD/HD in an adult requires an evaluation of the history of childhood problems in behavior and academic domains, as well as examination of current symptoms and coping strategies. For more information, read *What We Know* #9, "Diagnosis of AD/HD in Adults."

"Research clearly indicates that AD/HD tends to run in families and that the patterns of transmission are to a large extent genetic."

THE CAUSES

Multiple studies have been conducted to discover the cause of the disorder. Research clearly indicates that AD/HD tends to run in families and that the patterns of transmission are to a large extent genetic.[16,17] More than 20 genetic studies, in fact, have shown evidence that AD/HD is strongly inherited. Yet AD/HD is a complex disorder, which is undoubtedly the result of multiple interacting genes. Other causal factors (such as low birth weight, prenatal maternal smoking, and additional prenatal problems) may contribute to other cases of AD/HD.[18,19,20,21] Problems in parenting or parenting styles may make AD/HD better or worse, but these do not cause the disorder. AD/HD is clearly a brain-based disorder. Currently research is underway to better define the areas and pathways that are involved.

PROGNOSIS AND LONG-TERM OUTCOMES

Children with AD/HD are at risk for potentially serious problems in adolescence: academic underachievement and school failure, problems in social relations, risk for antisocial behavior patterns, teen pregnancy, and adverse driving consequences.[22] As noted above, AD/HD persists from childhood to adolescence in the vast majority of cases, although the symptom area of motor activity tends to diminish with time. Furthermore, up to two-thirds of children with AD/HD continue to experience significant symptoms in adulthood. Yet many adults with AD/HD learn coping strategies and compensate quite well.[23,24] A key to good outcome is early identification and treatment.

MULTIMODAL TREATMENT

AD/HD in children often requires a comprehensive approach to treatment called "*multimodal*" and includes:

- Parent and child education about diagnosis and treatment
- Behavior management techniques
- Medication
- School programming and supports

Treatment should be tailored to the unique needs of each child and family. Research from the landmark NIMH Multimodal Treatment Study of AD/HD is very encouraging.[25] Children who received carefully monitored medication, alone or in combination with behavioral treatment, showed significant improvement in their behavior at home and school plus better relationships with their classmates and family than did children receiving lower quality care.

Psychostimulants are the most widely used class of medication for the management of AD/HD related symptoms. Approximately 70 to 80 percent of children with AD/HD respond positively to psychostimulant medications.[26] Significant academic improvement is shown by students who take these medications*: increases in* attention and concentration, compliance and effort on tasks, as well as amount and accuracy of schoolwork, plus *decreased* activity levels, impulsivity, negative

behaviors in social interactions and physical and verbal hostility.[27,28] A new, nonstimulant medication—atomoxetine--appears to have similar effects as the stimulants.

Other medications that may decrease impulsivity, hyperactivity and aggression include some antidepressants and antihypertensives. However, each family must weigh the pros and cons of taking medication (see *What We Know #3*, "Managing Medication for Children and Adolescents with AD/HD").

Behavioral interventions are also a major component of treatment for children who have AD/HD. Important strategies include being consistent and using positive reinforcement, and teaching problem-solving, communication, and self-advocacy skills. Children, especially teenagers, should be actively involved as respected members of the school planning and treatment teams (see *What We Know #7*, "Psychosocial Treatment for Children and Adolescents with AD/HD").

School success may require a variety of classroom accommodations and behavioral interventions. Most children with AD/HD can be taught in the regular classroom with minor adjustments to the environment. Some children may require special education services if an educational need is indicated. These services may be provided within the regular education classroom or may require a special placement outside of the regular classroom that meets the child's unique learning needs (see *What We Know #4* "Educational Rights for Children with AD/HD").

Adults with AD/HD may benefit from learning to structure their environment. In addition, medications effective for childhood AD/HD are also helpful for adults who have AD/HD. While little research has been done on interventions for adults, diagnosis and treatment are still important.

SUMMARY

Although the symptoms of AD/HD—inattention, impulsivity and hyperactivity—are present to some extent in most children, when these symptoms are developmentally extreme, pervasive and persistent a diagnosis of AD/HD is warranted. This diagnostic category is associated with significant impairment in family relations, peer interactions, school achievement, and risk for accidental injury, which are domains of crucial importance for healthy and successful development. Because AD/HD can become a lifelong disorder, careful diagnosis and treatment are essential. CHADD is seeking out solutions that will lead to improved quality of life for children, adolescents and adults.

SUGGESTED READING

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Updated February 2008

For further information about AD/HD or CHADD, please contact:

National Resource Center on AD/HD
Children and Adults with
Attention-Deficit/Hyperactivity Disorder
8181 Professional Place, Suite 150
Landover, MD 20785
1-800-233-4050
www.help4adhd.org

Please also visit the CHADD Web site at
www.chadd.org

WHAT WE KNOW

Parenting a Child with AD/HD

Often, when a child is diagnosed with AD/HD, the first response from his or her concerned parent is, "What can *I do* about it?" Although life with your child may at times seem challenging, it is important to remember that children with AD/HD can and do succeed. As a parent, you can help create home and school environments that improve your child's chances for success. The earlier you address your child's problems, the more likely you will be able to prevent school and social failure and associated problems such as underachievement and poor self-esteem that may lead to delinquency or drug and alcohol abuse.

Early intervention holds the key to positive outcomes for your child. Here are some ways to get started:

- **Don't waste limited emotional energy on self-blame.** AD/HD is the result of dysfunction in certain areas of the brain and in the majority of cases is inherited. It is *not* caused by poor parenting or a chaotic home environment, although the home environment can make the symptoms of AD/HD worse.
- **Learn all you can about AD/HD.** There is a great deal of information available on the diagnosis and treatment of AD/HD. It is up to you to act as a good consumer and *learn* to distinguish the "accurate" information from the "inaccurate." But how can you sort out what will be useful and what will not? In general, it is good to be wary about ads claiming to cure AD/HD. Currently, there is no cure for AD/HD, but you can take positive steps to decrease its impact.

- **Make sure your child has a comprehensive assessment.** To complete the diagnostic process, make sure your child has a comprehensive assessment that includes medical, educational, and psychological evaluations and that other disorders that either mimic or commonly occur with AD/HD have been considered and ruled out.

Multimodal treatment for children and adolescents with AD/HD consists of:

- Parent and child education about diagnosis and treatment;
- Behavior management techniques;
- Medication; and
- School programming and supports.

Treatment should be tailored to the unique needs of each child and family.

HOW TO ENSURE YOUR CHILD'S SUCCESS AT SCHOOL

- **Become an effective case manager.** Keep a record of all information about your child. This includes copies of all evaluations and documents from any meetings concerning your child. You might also include information about AD/HD, a record of your child's prior treatments and placements, and contact information for the professionals who have worked with your child.
- **Take an active role in forming a team that understands AD/HD and wants to help your child.** Meetings at your child's school should be attended by the principal's designee, as well as a special educator and a classroom teacher that knows your child. You, however, have the right to request input at these meetings from others that understand AD/HD or your child's special needs. These include your child's physician, the school psychologist, and the nurse or guidance counselor from your child's school. If you have consulted other professionals, such as a psychiatrist, educational advocate or behavior management specialist, the useful information they have provided should also be made available at these meetings. A thorough understanding of your child's strengths and weaknesses and how AD/HD affects him will help you and members of this team go on to develop an appropriate and effective program that takes into account his or her AD/HD.
- **Learn all you can about AD/HD and your child's educational rights.** The more knowledge you have about your child's rights under the two education laws—the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act—the better the chance that you will maximize his or her success. Each state has a parent training and information center that can help you learn more about your child's rights (visit www.taalliance.org/centers to find the center in your state).
- **Become your child's best advocate.** You may have to represent or protect your child's best interest in school situations, both academic and behavioral. Become an active part of the team that determines what services and placements your child receives in an Individualized Education Plan (IEP) or Section 504 plan. See CHADD fact sheet #4, "Educational Rights for Children with AD/HD," for more information.

"The more knowledge you have about your child's rights under two education laws—IDEA and Section 504—the better the chance that you will maximize his or her success."

HOW TO MAKE LIFE AT HOME EASIER

- **Join a support group.** Parents will find additional information, as well as support, by attending local CHADD meetings where available. You can find the nearest chapter to your home on http://www.chadd.org chapter locator.
- **Seek professional help.** Ask for help from professionals, particularly if you are feeling depressed, frustrated and exhausted. Helping yourself feel less stressed will benefit your child as well.
- **Work together to support your child.** It is important that all of the adults that care for your child (parents, grandparents, relatives, and babysitters) agree on how to approach or handle your child's

problem behaviors. Working with a professional, if needed, can help you better understand how to work together to support your child.

- **Learn the tools of successful behavior management.** Parent training will teach you strategies to change behaviors and improve your relationship with your child. Identify parent training classes in your community through your local parent information and resource center (http://www.federalresourcecenter.org/frc/TAGuide/welcome.htm) or parent training and information center (http://www.taalliance.org/centers).
- **Find out if you have AD/HD.** Since AD/HD is generally inherited, many parents of children with AD/HD often discover that they have AD/HD when their child is diagnosed. Parents with AD/HD may need the same types of evaluation and treatment that they seek for their children in order to function at their best. AD/HD in the parent may make the home more chaotic and affect parenting skills.

PARENT TRAINING WILL HELP YOU LEARN TO:

- **Focus on certain behaviors and provide clear, consistent expectations, directions and limits.** Children with AD/HD need to know exactly what others expect from them. They do not perform well in ambiguous situations that don't specify exactly what is expected and that require they read between the lines.

"Many children with AD/HD have strengths in certain areas such as art, athletics, computers or mechanical ability. Build upon these strengths."

Working with a professional can help you narrow the focus to a few specific behaviors and help you set limits, and consistently follow through.

- **Set up an effective discipline system.** Parents should learn proactive—not reactive—discipline methods that teach and reward appropriate behavior and respond to misbehavior with alternatives such as "time out" or loss of privileges.
- **Help your child learn from his or her mistakes.** At times, negative consequences will arise naturally out of a child's behavior. However, children with AD/HD have difficulty making the connection between their behaviors and these consequences. Parents can help their child with AD/HD make these connections and learn from his or her mistakes.

HOW TO BOOST YOUR CHILD'S CONFIDENCE

- **Tell your child that you love and support him or her unconditionally.** There will be days when you may not believe this yourself. Those will be the days when it is even more important that you acknowledge the difficulties your child faces on a daily basis, and express your love. Let your child know that you will get through the smooth and rough times together.
- **Assist your child with social skills.** Children with AD/HD may be rejected by peers because of hyperactive, impulsive or aggressive behaviors. Parent training can help you learn how to assist your child in making friends and learning to work cooperatively with others.
- **Identify your child's strengths.** Many children with AD/HD have strengths in certain areas such as art, athletics, computers or mechanical ability. Build upon these strengths, so that your child will have a sense of pride and accomplishment. Make sure that your child has the opportunity to be successful while pursuing these activities and that his strengths are not undermined by untreated AD/HD. Also, avoid, as much as possible, targeting these activities as contingencies for good behavior or withholding them, as a form of punishment, when your child with AD/HD misbehaves.
- **Set aside a daily "special time" for your child.** Constant negative feedback can erode a child's self-esteem. A "special time," whether it's an outing, playing games, or just time spent in positive interaction, can help fortify your child against assaults to self-worth.

SUGGESTED READING

For Help Parenting Your Children and Teens

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For Help With Your Child's Social Skills

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For Help Navigating the Educational Maze

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For further information about AD/HD or CHADD, please contact:

National Resource Center on AD/HD
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8181 Professional Place, Suite 150
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800-233-4050
www.help4adhd.org

Please also visit the CHADD Web site at **www.chadd.org**.

Attention-Deficit/Hyperactivity Disorder (AD/HD) — National Dissemination Center for Children with Disabilities

Disability Fact Sheet 19 (FS19)
May 2010

Mario's Story

Mario is 10 years old. When he was 7, his family learned he had AD/HD. At the time, he was driving everyone crazy. At school, he couldn't stay in his seat or keep quiet. At home, he didn't finish his homework or his chores. He did scary things, too, like climb out of his window onto the roof and run across the street without looking.

Things are much better now. Mario was tested by a trained professional to find out what he does well and what gives him trouble. His parents and teachers came up with ways to help him at school. Mario has trouble sitting still, so now he does some of his work standing up. He's also the student who tidies up the room and washes the chalkboard. His teachers break down his lessons into several parts. Then they have him do each part one at a time. This helps Mario keep his attention on his work.

At home, things have changed, too. Now his parents know why he's so active. They are careful to praise him when he does something well. They even have a reward program to encourage good behavior. He earns "good job points" that they post on a wall chart. After earning 10 points he gets to choose something fun he'd like to do. Having a child with AD/HD is still a challenge, but things are looking better.

What is AD/HD?

Attention-Deficit/Hyperactivity Disorder (AD/HD) is a condition that can make it hard for a person to sit still, control behavior, and pay attention. These difficulties usually begin before the person is 7 years old. However, these behaviors may not be noticed until the child is older.

Doctors do not know just what causes AD/HD. However, researchers who study the brain are coming closer to understanding what may cause AD/HD. They believe that some people with AD/HD do not have enough of certain chemicals (called *neurotransmitters*) in their brain. These chemicals help the brain control behavior.

Parents and teachers do not cause AD/HD. Still, there are many things that both parents and teachers can do to help a child with AD/HD.

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How Common is AD/HD?

As many as 5 out of every 100 children in school may have AD/HD. Boys are three times more likely than girls to have AD/HD.

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What Are the Signs of AD/HD?

There are three main signs, or symptoms, of AD/HD. These are:

- problems with paying attention,
- being very active (called *hyperactivity*), and
- acting before thinking (called *impulsivity*).

More information about these symptoms is listed in a book called the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), which is published by the American Psychiatric Association (2000). Based on these symptoms, three types of AD/HD have been found:

- ***inattentive type***, where the person can't seem to get focuesd or stay focused on a task or activity;
- ***hyperactive-impulsive type***, where the person is very active and often acts without thinking; and
- ***combined type***, where the person is inattentive, impulsive, and too active

Inattentive type. Many children with AD/HD have problems paying attention. Children with the inattentive type of AD/HD often:

- do not pay close attention to details;
- can't stay focused on play or school work;
- don't follow through on instructions or finish school work or chores
- can't seem to organize tasks and activities;
- get distracted easily; and
- lose things such as toys, school work, and books. (APA, 2000, pp.85-86)

Hyperactive-impulsive type. Being too active is probably the most visible sign of AD/HD. The hyperactive child is "always on the go." (As he or she gets older, the level of activity may go down.) These children also act before thinking (called *impulsivity*). For example, they may run across the road without looking or climb to the top of very tall trees. They may be surprised to find themselves in a dangerous situation. They may have no idea of how to get out of the situation.

Hyperactivity and impulsivity tend to go together. Children with the hyperactive-impulsive type of AD/HD often may:

- figet and squirm;
- get out of their chairs when they're not supposed to;
- run around or climb constantly;
- have trouble playing quietly;
- talk too much;
- blurt out answers before questions have been completed;
- have trouble waiting their turn;
- interrupt others when they're talking; and
- butt in on the games others are playing. (APA, 2000, p. 86)

Combined type. Children with the combined type of AD/HD have symptoms of both of the types described above. They have problems with paying attention, with hyperactivity, and with controlling their impulses.

Of course, from time to time, all children are inattentive, impulsive, and too active. With children who have AD/HD, *these behaviors are the rule, not the exception.*

These behaviors can cause a child to have real problems at home, at school, and with friends. As a result, many children with AD/HD will feel anxious, unsure of themselves, and depressed. These feelings are not symptoms of AD/HD. They come from having problems again and again at home and in school.

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How Do You Know if a Child Has AD/HD?

When a child shows signs of AD/HD, he or she needs to be evaluated by a trained professional. This person may work for the school system or may be a professional in private practice. A complete evaluation is the only way to know for sure if the child has AD/HD. It is also important to:

- rule out other reasons for the child's behavior, and
- find out if the child has other disabilities along with AD/HD

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What About Treatment?

There is no quick treatment for AD/HD. However, the symptoms of AD/HD can be managed. It's important that the child's family and teachers:

- find out more about AD/HD;
- learn how to help the child manage his or her behavior;
- create an educational program that fits the child's individual needs;
- and provide medication, if parents and the doctor feel that this would help the child.

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What About School?

School can be hard for children with AD/HD. Success in school often means being able to pay attention and control behavior and impulse. These are the areas where children with AD/HD have trouble.

There are many ways the school can help students with AD/HD. Some students may be eligible to receive special education services under the Individuals with Disabilities Education Act (IDEA). AD/HD is specifically mentioned under IDEA's disability category of "Other Health Impairment" (OHI). We've included the IDEA's definition of OHI below and provide information on OHI in a separate fact sheet.

Despite the fact that AD/HD is specifically mentioned in IDEA's definition of OHI, some students with AD/HD may not be found eligible for services under IDEA. The AD/HD must affect educational performance. (To learn more about the eligibility process under IDEA, read Evaluating Children for Disability, looking specifically for the section on determining eligibility and what to do if you don't agree with the determination.) If a student is found not eligible for services under IDEA, he or she may be eligible for services under a different law, Section 504 of the Rehabilitation Act of 1973.

Regardless of the eligibility determination (yes or no), the school and the child's parents need to meet and talk about what special help the student needs. Most students with AD/HD are helped by supports or changes in the classroom (called *adaptations*). Some common changes that help students with AD/HD are listed under "Tips for Teachers" below. Much additional info is available from the organizations listed under "Additional Resources" at the end of this fact sheet.

IDEA's Definition of "Other Health Impairment"

Many students with ADHD may qualify for special education services under the "Other Health Impairment" category within the Individuals with Disabilities Education Act (IDEA). IDEA defines "other health impairment" as…

…having limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment, that—

(a) is due to chronic or acute health problems such as asthma, **attention deficit disorder or attention deficit hyperactivity disorder**, diabetes, epilepsy, a heart condition, hemophilia, lead poisoning, leukemia, nephritis, rheumatic fever, sickle cell anemia, and Tourette syndrome; and

(b) adversely affects a child's educational performance. [34 *Code of Federal Regulations* §300.8(c)(10)]

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Tips for Parents

- Learn about AD/HD. The more you know, the more you can help yourself and your child. The organizations listed under "Additional Information" (at the end of this fact sheet) can help you learn

more about the disability.

- Praise your child when he or she does well. Build your child's abilities. Talk about and encourage his or her strengths and talents.
- Be clear, be consistent, be positive. Set clear rules for your child. Tell your child what he or she *should* do, not just what he shouldn't do. Be clear about what will happen if your child does not follow the rules. Have a reward program for good behavior. Praise your child when he or she shows the behaviors you like.
- Learn about strategies for managing your child's behavior. These include valuable techniques such as: charting, having a reward program, ignoring behaviors, natural consequences, logical consequences, and time-out. Using these strategies will lead to more positive behaviors and cut down on problem behaviors. You can read about these techniques in many books. See "Resources" at the end of this publication.
- Talk with your doctor about whether medication will help your child.
- Pay attention to your child's mental health (and your own!). Be open to counseling. It can help you deal with the challenges of raising a child with AD/HD. It can help your child deal with frustration, feel better about himself or herself, and learn more about social skills.
- Talk to other parents whose children have AD/HD. Parents can share practical advice and emotional support. Call NICHCY to find out how to find parent groups near you.
- Meet with the school and develop an educational plan to address your child's needs. Both you and your child's teachers should get a written copy of this plan.
- Keep in touch with your child's teacher. Tell the teacher how your child is doing at home. Ask how your child is doing in school. Offer support.

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Tips for Teachers

- Learn more about AD/HD. The resources and organizations listed under "Additional Information" (at the end of this fact sheet) can help you identify specific techniques and strategies to support the student educationally. We've listed some strategies below. Also consult our page on effective instructional practices for students with disabilities, which has a section on teaching those with AD/HD.
- Figure out what specific things are hard for the student. For example, one student with AD/HD may have trouble starting a task, while another may have trouble ending one task and starting the next. Each student needs different help.
- Post rules, schedules, and assignments. Clear rules and routines will help a student with AD/HD. Have set times for specific tasks. Call attention to changes in the schedule.
- Show the student how to use an assignment book and a daily schedule. Also teach study skills and learning strategies, and reinforce these regularly.
- Help the student channel his or her physical activity (e.g., let the student do some work standing up or at the board). Provide regularly scheduled breaks.
- Make sure directions are given step by step, and that the student is following the directions. Give directions both verbally and in writing. Many students with AD/HD also benefit from doing the steps as separate tasks.
- Let the student do work on a computer.
- Work together with the student's parents to create and implement an educational plan tailored to meet the student's needs. Regularly share information about how the student is doing at home and at school.
- Have high expectations for the student, but be willing to try new ways of doing things. Be patient. Maximize the student's chances for success.

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Additional Resources

CHADD | Children and Adults with Attention-Deficit/Hyperactivity Disorder
Find loads of info on ADD and AD/HD. Find a local chapter of CHADD.
301.306.7070 | Info available in English and in Spanish.
http://www.chadd.org

National Resource Center on AD/HD
A service of CHADD.
1.800.233.4050 | Info available in English and in Spanish.
http://www.help4adhd.org/

Attention Deficit Disorder Association
1.800.939.1019 | info@add.org
http://adda.convio.net/site/PageServer

ADDINFONETWORK
http://www.addinfonetwork.com/hc3.asp

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What is ADD/ADHD?

Attention Deficit Disorder (ADD), also known as Attention Deficit Hyperactivity Disorder (ADHD) is indicated when children display inappropriate attention, hyperactivity, and impulsive behavior for their mental and chronological age. ADD/ADHD may first be recognized when the child enters school, but the symptoms are usually present at a much younger age.

What are characteristics of ADD/ADHD?

1. **Short Attention Span** -- often changes subject; doesn't finish projects; misses parts of directions; doesn't seem to listen to speaker; easily distracted by outside stimuli; shifts from one uncompleted task to another; loses things necessary for completing assignments or tasks.
2. **Impulsive Behavior** -- Interrupts conversations, sometimes making inappropriate comments; acts without thinking; breaks rules, then regrets it; difficulty accepting changes in routine; accident prone.
3. **Hyperactivity** -- Talks loudly, rapidly, incessantly; excessive energy, fidgety, constantly into things; moves quickly from one task to another, makes careless errors; stands beside seat, sits on the edge of seat, rocks in seat; has difficulty waiting turn.

Secondary characteristics

- **Emotional Instability** -- Low frustration tolerance, over-reacts, under-reacts; temper tantrums; excess anger or excitement.
- **Poor Social Relationships** -- few friends; bossy, irritates others without realizing; starts fights, chooses younger children for friends.
- **Poor Response to Discipline** -- doesn't accept correction; unresponsive to discipline; defiant.

Strategies for dealing with characteristics of ADD/ADHD

Attention:

✓ Provide a sanctuary for child to work away from distractions or seat child in front of room.

✓ Use direct instruction/interaction techniques that permit cues for attention, require direct response and provide immediate encouragement and correction.

✓ Acquire and maintain eye contact, verbal contact and close contact with the child.

✓ Give child a cue before giving instructions or directions. Directions should be brief and concise.

✓ Break tasks into small parts. Provide concrete models and examples -- a hands-on approach.

✓ Praise and recognize appropriate attention rather than reprimand for lack of attention.

Impulsive Behavior:

× Establish and post firm, clearly understood, rules with immediate consequences for violations.

× Establish routines for child and prepare child for breaks in routine.

× When behavior gets out of control, or the environment is too stimulating, calmly remove child and isolate him in a quiet place for a short period of time.

× Don't let child interrupt. Have him/her wait a brief time before giving permission to speak.

Hyperactivity:

⇨ Provide appropriate activities for channeling the child's energy, (e.g. rocking chair for reading,) combine a learning activity with movement (e.g. bouncing ball while reciting alphabet.)

⇨ Channel annoying behavior into more acceptable behavior (e.g. suggest tapping with fingers rather than pencil.)

⇨ Reward roaming child when he stays near work area, gradually making rewards more specific the closer child stays in area. Placing colored tape on floor around work area may remind child to stay in area.

⇨ Use activities that involve visual, tactile and auditory skills.

⇨ Alternate sitting and moving activities.

Social/Emotional:

☺ Use consistent rules and clear routine.

☺ Praise appropriate behavior.

☺ Keep environment as simple as possible.

☺ Playing with one friend at a time, or one toy at a time, may be most beneficial.

What do I do if I think my child has ADD/ADHD?

Your child should have a complete medical examination by your pediatrician or family physician. At your request, your school can also conduct tests to evaluate your child's abilities and learning style.

There is no single treatment for ADD/ADHD. The treatment plan must be individualized for each child. A comprehensive approach is the key to success.

Medication is helpful for many individuals diagnosed with ADD/ADHD, **but is best managed by a specialist in this area**, such as a physician or child psychiatrist who has training and expertise in treating attention disorders. Proper medication therapy improves attention span, controls impulsivity, dampens restlessness, improves school performance, decreases aggression and enhances the quality of family life.

Behavior modification techniques have also been effective, as have individual and family counseling.

Whatever treatment a family chooses, it must be one which touches all aspects of the child's life -- his/her self-perception, school, and home life. Children with ADD/ADHD are particularly in need of support and encouragement. Since academics are frequently difficult for them, they must find other avenues to build self-esteem, such as sports, art, music or other special interests.

BIBLIOGRAPHY

- The Diagnostic and Statistical Manual, 3rd Revision, DSMII, R. American Psychiatric Association.
- IPUL, Boise, ID, Information Flyer #1
- NAMI Medical Information Series, Attention Deficit Hyperactivity Disorder in Children

For more information about ATTENTION DISORDERS

CONTACT:

WYOMING
Information & Referral for Parents of Children with Disabilities

Parent
Information
Center

500 W. Lott St, Suite A
Buffalo, WY 82834
1-800-660-9742 (WY only)
(307) 684-2277 (v/tdd)
(307) 684-5314 (fax)
E-mail: tdawson@wpic.org
Website: www.wpic.org

To talk with the
PIC Outreach Parent Liaison
in your area, contact:

The contents of this brochure were developed under a grant from the U.S. Department of Education. However, the contents do not necessarily represent the policy of the Department of Education, and endorsement by the Federal Government should not be assumed.

Attention Disorders

Disability Brochure #2

Characteristics and Coping Strategies

Parent **I**nformation **C**enter
1-307-684-2277

A project of
Parents Helping Parents
of Wyoming, Inc.

A look at

Attention Deficit Hyperactivity Disorder (ADHD)

DEPARTMENT OF HEALTH AND HUMAN SERVICES NATIONAL INSTITUTES OF HEALTH

NIMH National Institute of Mental Health

Ricky sits on his hands to stop them from moving. “It’s like I have a motor inside me going “brrrrrr” all the time and I can’t stop it.”

Does this sound like your child?

Is it hard for your child to sit still?

Does your child act without thinking first?

Does your child start but not finish things?

If you answered "yes" to these questions, you may want to read this booklet to learn more about Attention Deficit Hyperactivity Disorder–called ADHD for short. ADHD is a real illness that starts in childhood. It can change the way children act, think, and feel.

Some children with ADHD squirm, fidget, or wiggle all the time and act without thinking. Others seem to be in another world, often staring into space or daydreaming. All of these behaviors may be signs of ADHD. This may sound like many children. But when such behaviors make it hard for a child to do well in school or make friends, ADHD may be the cause.

Parents of these children may know there is a problem, but they may not be sure what the problem is or what to do about it. **Reading this booklet will help you learn what you can do to help your child.**

Five steps to understand and get help for ADHD:

1. Look for signs of ADHD.
2. Learn that ADHD is an illness that can be treated.
3. Ask your child's doctor for help.
4. Talk to your child's teachers.
5. Work together to help your child.

Carlos

“When I read the checklist, I couldn’t believe it. I was nodding and saying “sí, sí” for each thing. I made many check marks. They all described my son, Juan. It made me want to figure out this whole thing so he could finally get better.”

Step 1

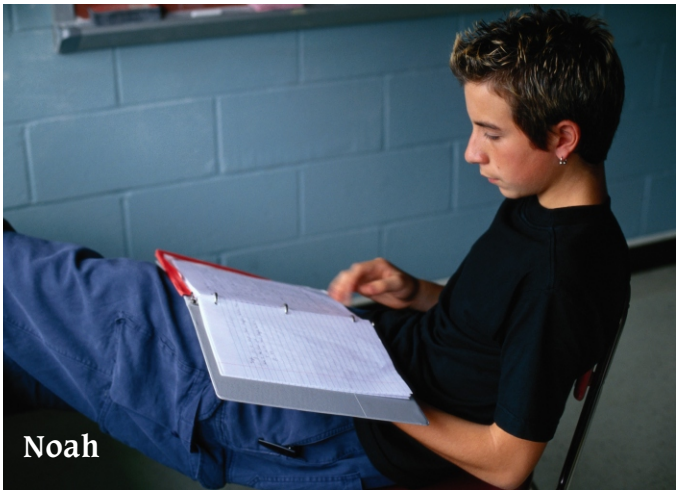
Look for signs of ADHD.

Put a check mark next to each one that sounds like your child. ☑

My child often...

- ☐ is moving something—fingers, hands, arms feet, or legs.
- ☐ walks, runs, or climbs around when others are seated.
- ☐ has trouble waiting in line or taking turns.
- ☐ doesn't finish things.
- ☐ gets bored after just a short while.
- ☐ daydreams or seems to be in another world.
- ☐ talks when other people are talking.
- ☐ gets frustrated with schoolwork or homework.
- ☐ acts quickly without thinking first.
- ☐ is sidetracked by what is going on around him or her.

Does this sound like your child? If so, talk with your child's doctor. The doctor can tell you whether your child has ADHD. The doctor can also tell you which treatments can help your child. If you visit the doctor, take this checklist with you.


Noah

"I do OK in gym class. Library time is the worst. All I hear is "sssshhh." I tell myself "Don't talk," but I never stop myself in time."

What is normal?

Most children have trouble sitting still. Many kids don't finish their schoolwork. Few children sit through meals without tapping, kicking, or drumming. So how do you know what is normal and what is ADHD? Only a doctor can tell you for sure. ADHD behavior doesn't happen in only one place, like at school. It may happen every day in the classroom, on the playground, and at home. ADHD can lead to problems with learning, friendships, and family life.

Pearl

“I get in trouble all the time,” Pearl tells her school counselor. “My teacher doesn’t like me. At recess none of the other kids want to play with me. Am I bad?”

Step 2

Learn that ADHD is an illness that can be treated.

ADHD can make children feel bad about themselves. They may see themselves as failures, when they are not. They need help with this common childhood illness.

With the right care, children with ADHD are able to pay attention, control their behavior, and slow their fast pace. With the illness under control, children can grow, learn, and develop better than before.

"Tyronne's teacher gave me a booklet on ADHD to read. It really helped. I used to think I was not a good parent or that he was not a good kid. Now I know it has been ADHD all along. It's an illness—like Ginetta's asthma. No one is to blame. It's a card we've been dealt. That's all. Now that we know what we are dealing with and how to treat it, it's getting better."

What causes ADHD?

The exact cause of ADHD has not yet been found. ADHD seems to run in families. If a parent, uncle, or grandparent has ADHD, other family members may also develop it. Physical differences in parts of the brain may also have something to do with it. There may not be a single cause, but a few things may come together to cause ADHD.

Puran

"I called the community mental health center because you don't need insurance to go there. We met with a child psychiatrist. The doctor asked us questions about how my daughter Shahi acts at home and school. The doctor also wanted to know about any bad things that had happened in her life, like when her father died. Then we got some forms for Shahi's teachers to fill out. This was how we found out she had ADHD."

Step 3

Ask your child's doctor for help.

If you are worried about your child's behavior, trust your feelings. Ask your child's doctor for help. Many parents start by taking their child to see a family doctor or pediatrician. Some families go on to see doctors who specialize in childhood problems such as ADHD. These doctors are called **"child psychiatrists"** or **"child psychologists."** Tell the doctor about the behavior that worries you. The doctor will tell you if the cause may be ADHD.

Step 3

Ask your child's doctor for help.

If you are worried about your child's behavior, trust your feelings. Ask your child's doctor for help. Many parents start by taking their child to see a family doctor or pediatrician. Some families go on to see doctors who specialize in childhood problems such as ADHD. These doctors are called **"child psychiatrists"** or **"child psychologists."** Tell the doctor about the behavior that worries you. The doctor will tell you if the cause may be ADHD.

The doctor will also want to look for other possible causes of the behavior. Sometimes children who are dealing with divorce, death, or other problems act in ways that look like, but aren't, ADHD. For this reason, your doctor will ask about things that are happening at home. The doctor will also make sure there are no other diseases or disabilities that might be causing your child's behavior.

Medicine and **"behavior therapy"** are the most common treatments for ADHD. Medicine for ADHD can help children pay attention, finish tasks, and think before they act. Behavior therapy involves meeting with the doctor to work on new skills to make it easier to deal with relationships, rules, limits, and choices. Both medicine and behavior therapy are safe and proven to work. These treatments used together give the best results.

“ I am eleven years old and I just did my first puzzle. Before, when I wasn’t taking medicine, I’d start but never finish them. I’d end up throwing the pieces on the floor. This time I took a short break, but I stuck with it. And I did it! My mom is really proud of me. I’m proud of me too.”

Step 4

Talk to your child's teachers.

Your child's school may be able to help in many ways. Talk to your child's teachers about ADHD.

- Ask if your child is having any problems in the classroom or on the playground.
- Tell the teachers that your child has ADHD, a common childhood illness.
- List any medications your child takes and explain any other treatments.
- Find out if your child can get any special services that help with learning.

To make sure your child gets all the help he or she needs, you can also talk to a guidance counselor at the school.

Step 5

Work together to help your child.

Parents, children, teachers, and doctors should work together as members of a team. Together you can set goals for your child and find the right treatment to reach those goals. Some of the goals families can work toward include:

- helping children feel better about themselves,
- helping children do better in school,
- helping children follow classroom and household rules,
- helping children make more friends, and
- reducing the behaviors that cause problems.

Some children with ADHD also get tutoring or counseling at school. Let your doctor know about any services provided by the school.

"In therapy I work on ways to remember things better. One is called **BHB**. It stands for **B**ackpack, **H**omework, **B**ooks. And I say to myself, "Have you got your BHB on?" My mom says it to me too. It helps me remember my school stuff."

ADHD in teens and adults:

Many people think of ADHD as a childhood illness, but it can continue through the teen years and into adulthood.

The teen years can be especially hard. With ADHD, people act without thinking first. This can make it hard for teens to make careful choices about drugs, drinking, smoking, or sex. In therapy, teens and parents work on rules, limits, and choices to help things go smoother at home and school.

ADHD also makes it hard to finish what you start. This can be a real problem for adults. Men and women may have trouble keeping up with the things they need to do at home and at work. Adults with ADHD may lose job after job because of their illness.

At any age, treatment can help.

Tips for parents:

Try to learn as much as you can about ADHD. As a parent, trust your thoughts and feelings. You know your child better than anyone else. If you don't think your child is getting the services he or she needs, speak up. Tell your child's doctor or school what you think. And don't stop asking questions.

Remember ADHD can be treated. Keep working to help your child get better. To be your child's best helper, take good care of yourself and stay healthy.

For more information:

You can call or write any of these organizations for free information about ADHD. You can also find more information on their web sites. "Free call" phone numbers can be used by anyone, anywhere in the United States.

National Institute of Mental Health (NIMH)

Office of Communications
6001 Executive Boulevard
Room 8184, MSC 9663
Bethesda, MD 20892-9663
Free call: 1-800-615-6464
Local call: 301-443-4513
Hearing impaired (TTY): 301-443-8431
Web site: http://www.nimh.nih.gov
E-mail: nimhinfo@nih.gov

Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD)

8181 Professional Place, Suite 150
Landover, MD 20785
Free call: 1-800-233-4050
Web site: http://www.chadd.org

Federation of Families for Children's Mental Health

1101 King Street
Alexandria, VA 22314
Local call: 703-684-7710
Web site: http://www.ffcmh.org

National Information Center for Children and Youth with Disabilities (NICHCY)
P.O. Box 1492
Washington, DC 20013
Free call: 1-800-695-0285
Web site: http://www.nichcy.org

All contact information was current as of the printed date of this booklet. Check the web sites for any changes in this information.

The names and photos used in this booklet are not real. The stories, however, are based on known experiences of ADHD.

Things to remember:

1. Look for signs of ADHD.
2. Learn that ADHD is an illness that can be treated.
3. Ask your child's doctor for help.
4. Talk to your child's teachers.
5. Work together to help your child.

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Attention Deficit Hyperactivity Disorder

DEPARTMENT OF HEALTH AND HUMAN SERVICES NATIONAL INSTITUTES OF HEALTH

NIMH
National Institute of Mental Health

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that becomes apparent in some children in the preschool and early school years. It is hard for these children to control their behavior and/or pay attention. It is estimated that between 3 and 5 percent of children have attention deficit hyperactivity disorder (ADHD), or approximately 2 million children in the United States. This means that in a classroom of 25 to 30 children, it is likely that at least one will have ADHD.

ADHD was first described by Dr. Heinrich Hoffman in 1845. A physician who wrote books on medicine and psychiatry, Dr. Hoffman was also a poet who became interested in writing for children when he couldn't find suitable materials to read to his 3-year-old son. The result was a book of poems, complete with illustrations, about children and their characteristics. "The Story of Fidgety Philip" was an accurate description of a little boy who had attention deficit hyperactivity disorder. Yet

it was not until 1902 that Sir George F. Still published a series of lectures to the Royal College of Physicians in England in which he described a group of impulsive children with significant behavioral problems, caused by a genetic dysfunction and not by poor child rearing—children who today would be easily recognized as having ADHD.[1] Since then, several thousand scientific papers on the disorder have been published, providing information on its nature, course, causes, impairments, and treatments.

A child with ADHD faces a difficult but not insurmountable task ahead. In order to achieve his or her full potential, he or she should receive help, guidance, and understanding from parents, guidance counselors, and the public education system. This brochure offers information on ADHD and its management, including research on medications and behavioral interventions, as well as helpful resources on educational options.

Because ADHD often continues into adulthood, this brochure contains a section on the diagnosis and treatment of ADHD in adults.

Symptoms

The principle characteristics of ADHD are **inattention**, **hyperactivity**, and **impulsivity**. These symptoms appear early in a child's life. Because many normal children may have these symptoms, but at a low level, or the symptoms may be caused by another disorder, it is important that the child receive a thorough examination and appropriate diagnosis by a well qualified professional.

Symptoms of ADHD will appear over the course of many months, often with the symptoms of impulsiveness and hyperactivity preceding those of inattention that may not emerge for a year or more. Different symptoms may appear in different settings, depending on the demands the situation may pose for the child's self-control. A child who "can't sit still" or is otherwise disruptive will be noticeable in school, but the inattentive daydreamer may be overlooked. The impulsive child who acts before thinking may be considered just a "discipline problem," while the child who is passive or sluggish may be viewed as merely unmotivated. Yet both may have different types of ADHD. All children are sometimes restless, sometimes act without thinking, sometimes daydream the time away. When the child's hyperactivity, distractibility, poor concentration, or impulsivity begin to affect performance in school, social relationships with other children, or behavior at home, ADHD may be suspected. But because the symptoms vary so much across settings, ADHD is not easy to diagnose. This is especially true when inattentiveness is the primary symptom.

According to the most recent version of the *Diagnostic and Statistical Manual of Mental Disorder*[2] (DSM-IV-TR), there are three patterns of behavior that indicate ADHD. People with ADHD may show several signs of being consistently inattentive. They may have a pattern of being hyperactive and impulsive far more than others of their age. Or they may show all three types of behavior. This means that there are three subtypes of ADHD recognized by professionals. These are the **predominantly hyperactive-impulsive type** (that does not show significant inattention); the **predominantly inattentive type** (that does not show significant hyperactive-impulsive behavior) sometimes called

ADD—an outdated term for this entire disorder; and the **combined type** (that displays both inattentive and hyperactive-impulsive symptoms).

Hyperactivity-impulsivity

Hyperactive children always seem to be "on the go" or constantly in motion. They dash around touching or playing with whatever is in sight, or talk incessantly. Sitting still at dinner or during a school lesson or story can be a difficult task. They squirm and fidget in their seats or roam around the room. Or they may wiggle their feet, touch everything, or noisily tap their pencil. Hyperactive teenagers or adults may feel internally restless. They often report needing to stay busy and may try to do several things at once.

Impulsive children seem unable to curb their immediate reactions or think before they act. They will often blurt out inappropriate comments, display their emotions without restraint, and act without regard for the later consequences of their conduct. Their impulsivity may make it hard for them to wait for things they want or to take their turn in games. They may grab a toy from another child or hit when they're upset. Even as teenagers or adults, they may impulsively choose to do things that have an immediate but small payoff rather than engage in activities that may take more effort yet provide much greater but delayed rewards.

Some signs of **hyperactivity-impulsivity** are:

- Feeling restless, often fidgeting with hands or feet, or squirming while seated
- Running, climbing, or leaving a seat in situations where

sitting or quiet behavior is expected
- Blurting out answers before hearing the whole question
- Having difficulty waiting in line or taking turns.

Inattention

Children who are inattentive have a hard time keeping their minds on any one thing and may get bored with a task after only a few minutes. If they are doing something they really enjoy, they have no trouble paying attention. But focusing deliberate, conscious attention to organizing and completing a task or learning something new is difficult.

Homework is particularly hard for these children. They will forget to write down an assignment, or leave it at school. They will forget to bring a book home, or bring the wrong one. The homework, if finally finished, is full of errors and erasures. Homework is often accompanied by frustration for both parent and child.

The DSM-IV-TR gives these signs of **inattention**.

- Often becoming easily distracted by irrelevant sights and sounds
- Often failing to pay attention to details and making careless mistakes
- Rarely following instructions carefully and completely losing or forgetting things like toys, or pencils, books, and tools needed for a task
- Often skipping from one uncompleted activity to another.

Children diagnosed with the Predominantly Inattentive Type of ADHD are seldom impulsive or hyperactive, yet have

significant problems paying attention. They appear to be daydreaming, "spacey," easily confused, slow moving and lethargic. They may have difficulty processing information as quickly and accurately as other children. When the teacher gives oral or even written instructions, this child has a hard time understanding what he or she is supposed to do and makes frequent mistakes. Yet the child may sit quietly, unobtrusively, and even appear to be working but not fully attending to or understanding the task and the instructions.

These children don't show significant problems with impulsivity and overactivity in the classroom, on the school ground, or at home. They may get along better with other children than the more impulsive and hyperactive types of ADHD, and they may not have the same sorts of social problems so common with the combined type of ADHD. So often their problems with inattention are overlooked. But they need help just as much as do the other types of ADHD who cause more obvious problems in the classroom.

Is It Really ADHD?

Not everyone who is overly hyperactive, inattentive, or impulsive has ADHD. Since most people sometimes blurt out things they didn't mean to say, or jump from one task to another, or become disorganized and forgetful, how can specialists tell if the problem is ADHD?

Because everyone shows some of these behaviors at times, the diagnosis requires that such behavior be demonstrated to a degree that is inappropriate for the person's age. The diagnostic guidelines also contain specific

requirements for determining when the symptoms indicate ADHD. The behaviors must appear early in life, before age 7, and continue for at least 6 months. Above all, the behaviors must create a real handicap in at least two areas of a person's life such as in the schoolroom, on the playground, at home, in the community, or in social settings. So someone who shows some symptoms but whose schoolwork or friendships are not impaired by these behaviors would not be diagnosed with ADHD. Nor would a child who seems overly active on the playground but functions well elsewhere receive an ADHD diagnosis.

To assess whether a child has ADHD, specialists consider several critical questions: Are these behaviors excessive, long-term, and pervasive? That is, do they occur more often than in other children the same age? Are they a continuous problem, not just a response to a temporary situation? Do the behaviors occur in several settings or only in one specific place like the playground or in the schoolroom? The person's pattern of behavior is compared against a set of criteria and characteristics of the disorder as listed in the DSM-IV-TR.

Diagnosis

Some parents see signs of inattention, hyperactivity, and impulsivity in their toddler long before the child enters school. The child may lose interest in playing a game, watching a TV show, or may run around completely out of control. But because children mature at different rates and are very different in personality, temperament, and energy levels, it's useful to get an expert's opinion of whether the

behavior is appropriate for the child's age. Parents can ask their child's pediatrician, or a child psychologist or psychiatrist, to assess whether their toddler has an attention deficit hyperactivity disorder or is, more likely at this age, just immature or unusually exuberant.

ADHD may be suspected by a parent or caretaker or may go unnoticed until the child runs into problems at school. Given that ADHD tends to affect functioning most strongly in school, sometimes the teacher is the first to recognize that a child is hyperactive or inattentive and may point it out to the parents and/or consult with the school psychologist. Because teachers work with many children, they come to know how "average" children behave in learning situations that require attention and self-control. However, teachers sometimes fail to notice the needs of children who may be more inattentive and passive yet who are quiet and cooperative, such as those with the predominantly inattentive form of ADHD.

Professionals who make the diagnosis

If ADHD is suspected, to whom can the family turn? What kinds of specialists do they need?

Ideally, the diagnosis should be made by a professional in your area with training in ADHD or in the diagnosis of mental disorders. Child psychiatrists and psychologists, developmental/behavioral pediatricians, or behavioral neurologists are those most often trained in differential diagnosis. Clinical social workers may also have such training.

The family can start by talking with the child's pediatrician or their family doctor. Some pediatricians may do the assessment themselves, but often they refer the family to an appropriate mental health specialist they know and trust. In addition, state and local agencies that serve families and children, as well as some of the volunteer organizations listed in the back of the brochure, can help identify appropriate specialists.

Specialty	Can Diagnose ADHD	Can prescribe medication, if needed	Provides counseling or training
Psychiatrists	yes	yes	yes
Psychologists	yes	no	yes
Pediatricians or Family Physicians	yes	yes	no
Neurologists	yes	yes	no
Clinical Social Workers	yes	no	yes

Knowing the differences in qualifications and services can help the family choose someone who can best meet their needs. There are several types of specialists qualified to diagnose and treat ADHD. Child psychiatrists are doctors who specialize in diagnosing and treating childhood mental and behavioral disorders. A psychiatrist can provide therapy and prescribe any needed medications. Child psychologists are also qualified to diagnose and treat ADHD. They can provide therapy for the child and help the family develop ways to deal

with the disorder. But psychologists are not medical doctors and must rely on the child's physician to do medical exams and prescribe medication. Neurologists, doctors who work with disorders of the brain and nervous system, can also diagnose ADHD and prescribe medicines. But unlike psychiatrists and psychologists, neurologists usually do not provide therapy for the emotional aspects of the disorder.

Within each specialty, individual doctors and mental health professionals differ in their experiences with ADHD. So in selecting a specialist, it's important to find someone with specific training and experience in diagnosing and treating the disorder.

Whatever the specialist's expertise, his or her first task is to gather information that will rule out other possible reasons for the child's behavior. Among possible causes of ADHD-like behavior are the following:

- A sudden change in the child's life—the death of a parent or grandparent; parents' divorce; a parent's job loss.
- Undetected seizures, such as in petit mal or temporal lobe seizures
- A middle ear infection that causes intermittent hearing problems
- Medical disorders that may affect brain functioning
- Underachievement caused by learning disability
- Anxiety or depression

Ideally, in ruling out other causes, the specialist checks the child's school and medical records. There may be a school record of hearing or vision problems, since most schools automatically screen for these. The specialist tries to determine whether the home and classroom environments are

unusually stressful or chaotic, and how the child's parents and teachers deal with the child.

Next the specialist gathers information on the child's ongoing behavior in order to compare these behaviors to the symptoms and diagnostic criteria listed in the DSM-IV-TR. This also involves talking with the child and, if possible, observing the child in class and other settings.

The child's teachers, past and present, are asked to rate their observations of the child's behavior on standardized evaluation forms, known as behavior rating scales, to compare the child's behavior to that of other children the same age. While rating scales might seem overly subjective, teachers often get to know so many children that their judgment of how a child compares to others is usually a reliable and valid measure.

The specialist interviews the child's teachers and parents, and may contact other people who know the child well, such as coaches or baby-sitters. Parents are asked to describe their child's behavior in a variety of situations. They may also fill out a rating scale to indicate how severe and frequent the behaviors seem to be.

In most cases, the child will be evaluated for social adjustment and mental health. Tests of intelligence and learning achievement may be given to see if the child has a learning disability and whether the disability is in one or more subjects.

In looking at the results of these various sources of information, the specialist pays special attention to the child's behavior during situations that are the most demanding of self-control, as well as noisy or unstructured situations such as parties, or during tasks that require sustained attention, like reading, working math problems, or playing a board game.

Behavior during free play or while getting individual attention is given less importance in the evaluation. In such situations, most children with ADHD are able to control their behavior and perform better than in more restrictive situations.

The specialist then pieces together a profile of the child's behavior. Which ADHD-like behaviors listed in the most recent DSM does the child show? How often? In what situations? How long has the child been doing them? How old was the child when the problem started? Are the behavior problems relatively chronic or enduring or are they periodic in nature? Are the behaviors seriously interfering with the child's friendships, school activities, or home life, or participation in community activities? Does the child have any other related problems? The answers to these questions help identify whether the child's hyperactivity, impulsivity, and inattention are significant and long-standing. If so, the child may be diagnosed with ADHD.

A correct diagnosis often resolves confusion about the reasons for the child's problems that lets parents and child move forward in their lives with more accurate information on what is wrong and what can be done to help. Once the disorder is diagnosed, the child and family can begin to receive whatever combination of educational, medical, and emotional help they need. This may include providing recommendations to school staff, seeking out a more appropriate classroom setting, selecting the right medication, and helping parents to manage their child's behavior.

What Causes ADHD?

One of the first questions a parent will have is "Why? What went wrong?" "Did I do something to cause this?" There is little compelling evidence at this time that ADHD can arise purely from social factors or child-rearing methods. Most substantiated causes appear to fall in the realm of neurobiology and genetics. This is not to say that environmental factors may not influence the severity of the disorder, and especially the degree of impairment and suffering the child may experience, but that such factors do not seem to give rise to the condition by themselves.

The parents' focus should be on looking forward and finding the best possible way to help their child. Scientists are studying causes in an effort to identify better ways to treat, and perhaps someday, to prevent ADHD. They are finding more and more evidence that ADHD does not stem from home environment, but from biological causes. Knowing this can remove a huge burden of guilt from parents who might blame themselves for their child's behavior.

Over the last few decades, scientists have come up with possible theories about what causes ADHD. Some of these theories have led to dead ends, some to exciting new avenues of investigation.

Environmental Agents. Studies have shown a possible correlation between the use of cigarettes and alcohol during pregnancy and risk for ADHD in the offspring of that pregnancy. As a precaution, it is best during pregnancy to refrain from both cigarette and alcohol use.

Another environmental agent that may be associated with a higher risk of ADHD is high levels of lead in the bodies of

young preschool children. Since lead is no longer allowed in paint and is usually found only in older buildings, exposure to toxic levels is not as prevalent as it once was. Children who live in old buildings in which lead still exists in the plumbing or in lead paint that has been painted over may be at risk.

Brain Injury. One early theory was that attention disorders were caused by brain injury. Some children who have suffered accidents leading to brain injury may show some signs of behavior similar to that of ADHD, but only a small percentage of children with ADHD have been found to have suffered a traumatic brain injury.

Food Additives and Sugar. It has been suggested that attention disorders are caused by refined sugar or food additives, or that symptoms of ADHD are exacerbated by sugar or food additives. In 1982, the National Institutes of Health held a scientific consensus conference to discuss this issue. It was found that diet restrictions helped about 5 percent of children with ADHD, mostly young children who had food allergies.[3] A more recent study on the effect of sugar on children, using sugar one day and a sugar substitute on alternate days, without parents, staff, or children knowing which substance was being used, showed no significant effects of the sugar on behavior or learning.[4]

In another study, children whose mothers felt they were sugar-sensitive were given aspartame as a substitute for sugar. Half the mothers were told their children were given sugar, half that their children were given aspartame. The mothers who thought their children had received sugar rated them as more hyperactive than the other children and were more critical of their behavior.[5]

Genetics. Attention disorders often run in families, so there are likely to be genetic influences. Studies indicate that 25 percent of the close relatives in the families of ADHD children also have ADHD, whereas the rate is about 5 percent in the general population.[6] Many studies of twins now show that a strong genetic influence exists in the disorder.[7]

Researchers continue to study the genetic contribution to ADHD and to identify the genes that cause a person to be susceptible to ADHD. Since its inception in 1999, the Attention-Deficit Hyperactivity Disorder Molecular Genetics Network has served as a way for researchers to share findings regarding possible genetic influences on ADHD.[8]

Recent Studies on Causes of ADHD. Some knowledge of the structure of the brain is helpful in understanding the research scientists are doing in searching for a physical basis for attention deficit hyperactivity disorder. One part of the brain that scientists have focused on in their search is the *frontal lobes* of the *cerebrum*. The frontal lobes allow us to solve problems, plan ahead, understand the behavior of others, and restrain our impulses. The two frontal lobes, the right and the left, communicate with each other through the *corpus callosum*, (nerve fibers that connect the right and left frontal lobes).

The *basal ganglia* are the interconnected gray masses deep in the cerebral hemisphere that serve as the connection between the cerebrum and the *cerebellum* and, with the cerebellum are responsible for motor coordination. The cerebellum is divided into three parts. The middle part is called the *vermis*.

All of these parts of the brain have been studied through the use of various methods for seeing into or imaging the

brain. These methods include functional magnetic resonance imaging (fMRI) positron emission tomography (PET), and single photon emission computed tomography (SPECT). The main or central psychological deficits in those with ADHD have been linked through these studies. By 2002 the researchers in the NIMH Child Psychiatry Branch had studied 152 boys and girls with ADHD, matched with 139 age-and gender-matched controls without ADHD. The children were scanned at least twice, some as many as four times over a decade. As a group, the ADHD children showed 3-4 percent smaller brain volumes in all regions—the frontal lobes, temporal gray matter, caudate nucleus, and cerebellum.

This study also showed that the ADHD children who were on medication had a white matter volume that did not differ from that of controls. Those never-medicated patients had an abnormally small volume of white matter. The white matter consists of fibers that establish long-distance connections between brain regions. It normally thickens as a child grows older and the brain matures.[9]

Although this long-term study used MRI to scan the children's brains, the researchers stressed that MRI remains a research tool and cannot be used to diagnose ADHD in any given child. This is true for other neurological methods of evaluating the brain, such as the PET and the SPECT.

Disorders that Sometimes Accompany ADHD

Learning Disabilities. Many children with ADHD—approximately 20 to 30 percent—also have a specific

learning disability (LD).[10] In preschool years, these disabilities include difficulty in understanding certain sounds or words and/or difficulty in expressing oneself in words. In school age children, reading or spelling disabilities, writing disorders, and arithmetic disorders may appear. A type of reading disorder, *dyslexia*, is quite widespread. Reading disabilities affect up to 8 percent of elementary school children.

Tourette Syndrome. A very small proportion of people with ADHD have a neurological disorder called Tourette syndrome. People with Tourette have various nervous tics and repetitive mannerisms, such as eye blinks, or facial twitches or grimacing. Others may clear their throats frequently, snort, sniff, or bark out words. These behaviors can be controlled with medication. While very few children have this syndrome, many of the cases of Tourette syndrome have associated ADHD. In such cases, both disorders often require treatment that may include medications.

Oppositional defiant disorder. As many as one-third to one-half of all children with ADHD—mostly boys—have another condition, known as oppositional defiant disorder (ODD). These children are often defiant, stubborn, non-compliant, have outbursts of temper, or become belligerent. They argue with adults and refuse to obey.

Conduct disorder. About 20 to 40 percent of ADHD children may eventually develop conduct disorder (CD), a more serious pattern of antisocial behavior. These children frequently lie or steal, fight with or bully others, and are at a real risk of getting into trouble at school or with the police. They violate the basic rights of other people, are aggressive toward people and/or animals, destroy property, break into people's homes, commit thefts, carry or use weapons, or

engage in vandalism. These children or teens are at greater risk for substance use experimentation, and later dependence and abuse. They need immediate help.

Anxiety and Depression. Some children with ADHD often have co-occurring anxiety or depression. If the anxiety or depression is recognized and treated, the child will be better able to handle the problems that accompany ADHD. Vice versa, effective treatment of ADHD can have a positive impact on anxiety as the child is better able to master academic tasks.

Bipolar Disorder. There are no accurate statistics on how many children with ADHD also have bipolar disorder. Differentiating between ADHD and bipolar disorder in childhood can be difficult. In its classic form, bipolar disorder is characterized by mood cycling between periods of intense highs and lows. But in children, bipolar often seems to be a rather chronic mood dysregulation with a mixture of elation, depression, and irritability. Furthermore, there are some symptoms that can be present both in ADHD and bipolar disorder, such as a high level of energy and a reduced need for sleep. Of the symptoms differentiating children with ADHD from those with bipolar disorder, elated mood and grandiosity of the bipolar child are distinguishing characteristics.[11]

The Treatment of ADHD

Every family wants to determine what treatment will be most effective for their child. This question needs to be answered by each family in consultation with their health care professional. To help families make this important decision, the National Institute of Mental Health (NIMH) has funded many studies of treatments for ADHD and has conducted the most intensive

study ever undertaken for evaluating the treatment of this disorder. This study is known as the Multimodal Treatment Study of Children with Attention Deficit Hyperactivity Disorder (MTA).[12] The NIMH is now conducting a clinical trial for younger children ages 3 to 5.5 years (Treatment of ADHD in Preschool-Age Children).

The Multimodal Treatment Study of Children with Attention Deficit Hyperactivity Disorder

The MTA study included 579 (95-98 at each of 6 treatment sites) elementary school boys and girls with ADHD, randomly assigning them to one of four treatment programs: (1) medication management alone; (2) behavioral treatment alone; (3) a combination of both; or (4) routine community care.

In each of the study sites, three groups were treated for the first 14 months in a specified protocol and the fourth group was referred for community treatment of the parents' choosing. All of the children were reassessed regularly throughout the study period. An essential part of the program was the cooperation of the schools, including principals and teachers. Both teachers and parents rated the children on hyperactivity, impulsivity, and inattention, and symptoms of anxiety and depression, as well as social skills.

The children in two groups (medication management alone and the combination treatment) were seen monthly for one-half hour at each medication visit. During the treatment visits, the prescribing physician spoke with the parent, met with the child, and sought to determine any concerns that the family might have regarding the medication or the child's ADHD-related difficulties. The physicians, in addition, sought

input from the teachers on a monthly basis. The physicians in the medication-only group did not provide behavioral therapy but did advise the parents when necessary concerning any problems the child might have.

In the behavior treatment-only group, families met up to 35 times with a behavior therapist, mostly in group sessions. These therapists also made repeated visits to schools to consult with children's teachers and to supervise a special aide assigned to each child in the group. In addition, children attended a special 8-week summer treatment program where they worked on academic, social, and sports skills, and where intensive behavioral therapy was delivered to assist children in improving their behavior.

Children in the combined therapy group received both treatments, that is, all the same assistance that the medication-only received, as well as all of the behavior therapy treatments.

In routine community care, the children saw the community-treatment doctor of their parents' choice one to two times per year for short periods of time. Also, the community-treatment doctor did not have any interaction with the teachers.

The results of the study indicated that long-term combination treatments and the medication-management alone were superior to intensive behavioral treatment and routine community treatment. And in some areas—anxiety, academic performance, oppositionality, parent-child relations, and social skills—the combined treatment was usually superior. Another advantage of combined treatment was that children could be successfully treated with lower doses of medicine, compared with the medication-only group.

Treatment of Attention Deficit Hyperactivity Disorder in Preschool-Age Children (PATS)

Because many children in the preschool years are diagnosed with ADHD and are given medication, it is important to know the safety and efficacy of such treatment. The NIMH is sponsoring an ongoing multi-site study, "Preschool ADHD Treatment Study" (PATS). It is the first major effort to examine the safety and efficacy of a stimulant, methylphenidate, for ADHD in this age group. The PATS study uses a randomized, placebo-controlled, double-blind design. Children aged 3 to 5 who have severe and persistent symptoms of ADHD that impair their functioning are eligible for this study. To avoid using medications at such an early age, all children who enter the study are first treated with behavioral therapy. Only children who do not show sufficient improvement with behavior therapy are considered for the medication part of the study. The study is being conducted at New York State Psychiatric Institute, Duke University, Johns Hopkins University, New York University, University of California at Los Angeles, and the University of California at Irvine. Enrollment in the study will total 165 children.

Which treatment should my child have?

For children with ADHD, no single treatment is the answer for every child. A child may sometimes have undesirable side effects to a medication that would make that particular treatment unacceptable. And, if a child with ADHD also has anxiety or depression, a treatment combining medication and behavioral therapy might be best. Each child's needs and personal history must be carefully considered.

Medications

For decades, medications have been used to treat the symptoms of ADHD.

The medications that seem to be the most effective are a class of drugs known as stimulants. Following is a list of the stimulants, their trade (or brand) names and their generic names. "Approved age" means that the drug has been tested and found safe and effective in children of that age.

Trade Name	Generic Name	Approved Age
Adderall	amphetamine	3 and older
Concerta	methylphenidate (long acting)	6 and older
Cylert*	pemoline	6 and older
Dexedrine	dextroamphetamine	3 and older
Dextrostat	dextroamphetamine	3 and older
Focalin	dexmethylphenidate	6 and older
Metadate ER	methylphenidate (extended release)	6 and older
Metadate CD	methylphenidate (extended release)	6 and older
Ritalin	methylphenidate	6 and older
Ritalin SR	methylphenidate (extended release)	6 and older
Ritalin LA	methylphenidate (long acting)	6 and older

*Because of its potential for serious side effects affecting the liver, Cylert should not ordinarily be considered as first-line drug therapy for ADHD.

The Food and Drug Adminstration recently approved a medication for ADHD that is not a stimulant. The medication, Strattera®, or atomoxetine, works on the neurotransmitter norepinephrine; whereas the stimulants primarily work on dopamine. Both of theses neurotransmitters are believed to play a role in ADHD. More studies will need to be done to contrast Strattera with the medications already available but the evidence to date indicates that over 70 percent of children with ADHD given Strattera manifest significant improvement in their symptoms.

Some people get better results from one medication, some from another. It is important to work with the prescribing physician to find the right medication and the right dosage. For many people, the stimulants dramatically reduce their hyperactivity and impulsivity and improve their ability to focus, work, and learn. The medications may also improve physical coordination, such as that needed in handwriting and in sports.

The stimulant drugs, when used with medical supervision, are usually considered quite safe. Stimulants do not make the child feel "high," although some children say they feel different or funny. Such changes are usually very minor. Although some parents worry that their child may become addicted to the medication, to date there is no convincing evidence that stimulant medications, when used for treatment of ADHD, cause drug abuse or dependence. A review of all long-term studies on stimulant medication and substance abuse, conducted by researchers at Massachusetts General Hospital and Harvard Medical School, found that teenagers with ADHD who remained on their medication during the teen years had a lower likelihood of substance use or abuse than did ADHD adolescents who were not taking medications.[13]

The stimulant drugs come in long- and short-term forms. The newer sustained-release stimulants can be taken before school and are long-lasting so that the child does not need to go to the school nurse every day for a pill. The doctor can discuss with the parents the child's needs and decide which preparation to use and whether the child needs to take the medicine during school hours only or in the evening and weekends too.

If the child does not show symptom improvement after taking a medication for a week, the doctor may try adjusting the dosage. If there is still no improvement, the child may be switched to another medication. About one out of ten children is not helped by a stimulant medication. Other types of medication may be used if stimulants don't work or if the ADHD occurs with another disorder. Antidepressants and other medications can help control accompanying depression or anxiety.

Sometimes the doctor may prescribe for a young child a medication that has been approved by the U.S. Food and Drug Administration (FDA) for use in adults or older children. This use of the medication is called "off label." Many of the newer medications that are proving helpful for child mental disorders are prescribed off label because only a few of them have been systematically studied for safety and efficacy in children. Medications that have not undergone such testing are dispensed with the statement that "safety and efficacy have not been established in pediatric patients."

Side Effects of the Medications

Most side effects of the stimulant medications are minor and are usually related to the dosage of the medication being taken. Higher doses produce more side effects. The most common side effects are decreased appetite, insomnia, increased anxiety and/or irritability. Some children report mild stomach aches or headaches.

Appetite seems to fluctuate, usually being low during the middle of the day and more normal by suppertime. Adequate amounts of food that is nutritional should be available for the child especially at peak appetite times.

If the child has difficulty falling asleep, several options may be tried—a lower dosage of the stimulant, giving the stimulant earlier in the day, discontinuing the afternoon or evening dosage, or giving an adjunct medication such as a low-dosage antidepressant or clonidine. A few children develop tics during treatment. These can often be lessened by changing the medication dosage. A very few children cannot tolerate any stimulant, no matter how low the dosage. In such cases, the child is often given an antidepressant instead of the stimulant.

When a child's schoolwork and behavior improve soon after starting medication, the child, parents, and teachers tend to applaud the drug for causing the sudden changes. Unfortunately, when people see such immediate improvement, they often think medication is all that's needed. But medications don't cure ADHD; they only control the symptoms on the day they are taken. Although the medications help the child pay better attention and complete school work, they can't increase knowledge or improve academic skills. The medications help the child to use those skills he or she already possesses.

Behavioral therapy, emotional counseling, and practical support will help ADHD children cope with everyday problems and feel better about themselves.

Facts to remember about medication for ADHD

- Medications for ADHD help many children focus and be more successful at school, home, and play. Avoiding negative experiences now may actually help prevent addictions and other emotional problems later.

- About 80 percent of children who need medication for ADHD still need it as teenagers. Over 50 percent need medication as adults.

Medication for the Child with Both ADHD and Bipolar Disorder

Since a child with bipolar disorder will probably be prescribed a mood stabilizer such as lithium or Depakote®, the doctor will carefully consider whether the child should take one of the medications usually prescribed for ADHD. If a stimulant medication is prescribed, it may be given in a lower dosage than usual.

The Family and the ADHD Child

Medication can help the ADHD child in everyday life. He or she may be better able to control some of the behavior problems that have led to trouble with parents and siblings. But it takes time to undo the frustration, blame, and anger that may have gone on for so long. Both parents and children may need special help to develop techniques for managing the patterns of behavior. In such cases, mental health professionals can counsel the child and the family, helping them to develop new skills, attitudes, and ways of relating to each other. In individual counseling, the therapist helps children with ADHD learn to feel better about themselves. The therapist can also help them to identify and build on their strengths, cope with daily problems, and control their attention and aggression. Sometimes only the child with ADHD needs counseling support. But in many cases, because the problem affects the family as a whole, the entire family may need help.

The therapist assists the family in finding better ways to handle the disruptive behaviors and promote change. If the child is young, most of the therapist's work is with the parents, teaching them techniques for coping with and improving their child's behavior.

Several intervention approaches are available. Knowing something about the various types of interventions makes it easier for families to choose a therapist that is right for their needs.

Psychotherapy works to help people with ADHD to like and accept themselves despite their disorder. It does not address the symptoms or underlying causes of the disorder. In psychotherapy, patients talk with the therapist about upsetting thoughts and feelings, explore self-defeating patterns of behavior, and learn alternative ways to handle their emotions. As they talk, the therapist tries to help them understand how they can change or better cope with their disorder.

Behavioral therapy (BT) helps people develop more effective ways to work on immediate issues. Rather than helping the child understand his or her feelings and actions, it helps directly in changing their thinking and coping and thus may lead to changes in behavior. The support might be practical assistance, like help in organizing tasks or schoolwork or dealing with emotionally charged events. Or the support might be in self-monitoring one's own behavior and giving self-praise or rewards for acting in a desired way such as controlling anger or thinking before acting.

Social skills training can also help children learn new behaviors. In social skills training, the therapist discusses and models appropriate behaviors important in developing and maintaining social relationships, like waiting for a turn,

sharing toys, asking for help, or responding to teasing, then gives children a chance to practice. For example, a child might learn to "read" other people's facial expression and tone of voice in order to respond appropriately. Social skills training helps the child to develop better ways to play and work with other children.

Support groups help parents connect with other people who have similar problems and concerns with their ADHD children. Members of support groups often meet on a regular basis (such as monthly) to hear lectures from experts on ADHD, share frustrations and successes, obtain referrals to qualified specialists and information about what works. There is strength in numbers, and sharing experiences with others who have similar problems helps people know that they aren't alone. National organizations are listed in the back of this brochure.

Parenting skills training, offered by therapists or in special classes, gives parents tools and techniques for managing their child's behavior. One such technique is the use of token or point systems for immediately rewarding good behavior or work. Another is the use of "time out" or isolation to a chair or bedroom when the child becomes too unruly or out of control. During time outs, the child is removed from the agitating situation and sits alone quietly for a short time to calm down. Parents may also be taught to give the child "quality time" each day, in which they share a pleasurable or relaxed activity. During this time together, the parent looks for opportunities to notice and point out what the child does well, and praise his or her strengths and abilities.

This system of rewards and penalties can be an effective way to modify a child's behavior. The parents (or teacher) identify a few desirable behaviors that they want to encourage in the child—such as asking for a toy instead of grabbing it, or completing a simple task. The child is told exactly what is expected in order to earn the reward. The child receives the reward when he performs the desired behavior and a mild penalty when he doesn't. A reward can be small, perhaps a token that can be exchanged for special privileges, but it should be something the child wants and is eager to earn. The penalty might be removal of a token or a brief time out. *Make an effort to find your child being good.* The goal, over time, is to help children learn to control their own behavior and to choose the more desired behavior. The technique works well with all children, although children with ADHD may need more frequent rewards.

In addition, parents may learn to structure situations in ways that will allow their child to succeed. This may include allowing only one or two playmates at a time, so that their child doesn't get overstimulated. Or if their child has trouble completing tasks, they may learn to help the child divide a large task into small steps, then praise the child as each step is completed. Regardless of the specific technique parents may use to modify their child's behavior, some general principles appear to be useful for most children with ADHD. These include providing more frequent and immediate feedback (including rewards and punishment), setting up more structure in advance of potential problem situations, and providing greater supervision and encouragement to children with ADHD in relatively unrewarding or tedious situations.

Parents may also learn to use stress management methods, such as meditation, relaxation techniques, and

exercise to increase their own tolerance for frustration, so that they can respond more calmly to their child's behavior.

Some Simple Behavioral Interventions

Children with ADHD may need help in organizing. Therefore:

- **Schedule.** Have the same routine every day, from wake-up time to bedtime. The schedule should include homework time, playtime (including outdoor recreation and indoor activities such as computer games). Have the schedule on the refrigerator or a bulletin board in the kitchen. If a schedule change must be made, make it as far in advance as possible.
- **Organize needed everyday items.** Have a place for everything and keep everything in its place. This includes clothing, backpacks, school supplies.
- **Use homework and notebook organizers.** Stress the importance of writing down assignments and bringing home needed books.

Children with ADHD need consistent rules that they can understand and follow. If rules are followed, give small rewards. Children with ADHD often receive, and expect, criticism. Look for good behavior and praise it.

Your ADHD Child and School

You are your child's best advocate. To be a good advocate for your child, learn as much as you can about ADHD and how it affects your child at home, in school, in social situations.

If your child has shown symptoms of ADHD from an early age and has been evaluated, diagnosed, and treated with either behavior modification or medication or a combination of both, when your child enters the school system, let his or her teachers know. They will be better prepared to help the child come into this new world away from home.

If, after your child enters school and is experiencing difficulties that lead you to suspect that he or she has ADHD, you can either seek the services of an outside professional or you can ask the local school district to conduct an evaluation. Some parents prefer to go to a professional of their own choice. But it is the school's obligation to evaluate a child that they suspect has ADHD or some other disability that is affecting not only their academic work but their interactions with classmates and teachers.

If you feel that your child has ADHD and isn't learning in school as he or she should, you should find out just whom in the school system you should contact. Your child's teacher should be able to help you with this information. Then you can request—in writing—that the school system evaluate your child. The letter should include the date, your and your child's names, and the reason for requesting an evaluation. Keep a copy of the letter in your own files.

Until the last few years, many school systems were reluctant to evaluate a child with ADHD. But recent laws have made clear the school's obligation to the child suspected of having ADHD that is affecting adversely his or her performance in school. If the school persists in refusing to evaluate your child, you can either get a private evaluation or enlist some help in negotiating with the school. Help is often as close as a local parent group. Each state has a Parent Training and Information (PTI) center as well as a Protection

and Advocacy (P&A) agency. (For information on the law and on the PTL and P&A, see the section on support groups and organizations in the back of the brochure.)

Once your child has been diagnosed with ADHD and qualifies for special education services, the school, working with you, must assess the child's strengths and weaknesses and design an Individualized Educational Program (IEP). You should be able periodically to review and approve your child's IEP. Each school year brings a new teacher and new schoolwork, a transition that can be quite difficult for the child with ADHD. Your child needs lots of support and encouragement at this time.

Never forget the cardinal rule—*you are your child's best advocate*.

Your Teenager with ADHD

Your child with ADHD has successfully navigated the early school years and is beginning his or her journey through middle school and high school. Although your child has been periodically evaluated through the years, this is a good time to have a complete re-evaluation of your child's health.

The teen years are challenging for most children; for the child with ADHD these years are doubly hard. All the adolescent problems—peer pressure, the fear of failure in both school and socially, low self-esteem—are harder for the ADHD child to handle. The desire to be independent, to try new and forbidden things—alcohol, drugs, and sexual activity—can lead to unforeseen consequences. The rules that once were, for the most part, followed, are often now flaunted. Parents

may not agree with each other on how the teenager's behavior should be handled.

Now, more than ever, rules should be straightforward and easy to understand. Communication between the adolescent and parents can help the teenager to know the reasons for each rule. When a rule is set, it should be clear why the rule is set. Sometimes it helps to have a chart, posted usually in the kitchen, that lists all household rules and all rules for outside the home (social and school). Another chart could list household chores with space to check off a chore once it is done.

When rules are broken—and they will be—respond to this inappropriate behavior as calmly and matter-of-factly as possible. Use punishment sparingly. Even with teens, a time-out can work. Impulsivity and hot temper often accompany ADHD. A short time alone can help.

As the teenager spends more time away from home, there will be demands for a later curfew and the use of the car. Listen to your child's request, give reasons for your opinion and listen to his or her opinion, and negotiate. *Communication, negotiation, and compromise* will prove helpful.

Your teenager and the car. Teenagers, especially boys, begin talking about driving by the time they are 15. In some states, a learner's permit is available at 15 and a driver's license at 16. Statistics show that 16-year-old drivers have more accidents per driving mile than any other age. In the year 2000, 18 percent of those who died in speed-related crashes were youth aged 15 to 19. Sixty-six percent of these youth were not wearing safety belts. Youth with ADHD, in

their first 2-5 years of driving, have nearly four times as many automobile accidents, are more likely to cause bodily injury in accidents, and have three times as many citations for speeding as the young drivers without ADHD.[14]

Most states, after looking at the statistics for automobile accidents involving teenage drivers, have begun to use a graduated driver licensing system (GDL). This system eases young drivers onto the roads by a slow progression of exposure to more difficult driving experiences. The program, as developed by the National Highway Traffic Safety Administration and the American Association of Motor Vehicle Administrators, consists of three stages: learner's permit, intermediate (provisional) license, and full licensure. Drivers must demonstrate responsible driving behavior at each stage before advancing to the next level. During the learner's permit stage, a licensed adult must be in the car at all times.[15] This period of time will give the learner a chance to practice, practice, practice. The more your child drives, the more efficient he or she will become. The sense of accomplishment the teenager with ADHD will feel when the coveted license is finally in his or her hands will make all the time and effort involved worthwhile.

Note: The State Legislative Fact Sheets – Graduated Driver Licensing System can be found at website http://www.nhtsa.dot.gov/people/outreach/stateleg/graddriverlic.htm, or it can be ordered from NHTSA Headquarters, Traffic Safety Programs, ATTN: NTS-32, 400 Seventh Street, S.W., Washington, DC 20590; telephone 202-366-6948.

Attention Deficit Hyperactivity Disorder in Adults

Attention Deficit Hyperactivity Disorder is a highly publicized childhood disorder that affects approximately 3 to 5 percent of all children. What is much less well known is the probability that, of children who have ADHD, many will still have it as adults. Several studies done in recent years estimate that between 30 percent and 70 percent of children with ADHD continue to exhibit symptoms in the adult years.[16]

The first studies on adults who were never diagnosed as children as having ADHD, but showed symptoms as adults, were done in the late 1970s by Drs. Paul Wender, Frederick Reimherr, and David Wood. These symptomatic adults were retrospectively diagnosed with ADHD after the researchers' interviews with their parents. The researchers developed clinical criteria for the diagnosis of adult ADHD (the Utah Criteria) which combined past history of ADHD with current evidence of ADHD behaviors.[17] Other diagnostic assessments are now available; among them are the widely used Conners Rating Scale and the Brown Attention Deficit Disorder Scale.

Typically, adults with ADHD are unaware that they have this disorder—they often just feel that it's impossible to get organized, to stick to a job, to keep an appointment. The everyday tasks of getting up, getting dressed and ready for the day's work, getting to work on time, and being productive on the job can be major challenges for the ADD adult.

Diagnosing ADHD in an Adult

Diagnosing an adult with ADHD is not easy. Many times, when a child is diagnosed with the disorder, a parent will

recognize that he or she has many of the same symptoms the child has and, for the first time, will begin to understand some of the traits that have given him or her trouble for years—distractability, impulsivity, restlessness. Other adults will seek professional help for depression or anxiety and will find out that the root cause of some of their emotional problems is ADHD. They may have a history of school failures or problems at work. Often they have been involved in frequent automobile accidents.

To be diagnosed with ADHD, an adult must have childhood-onset, persistent, and current symptoms.[18] The accuracy of the diagnosis of adult ADHD is of utmost importance and should be made by a clinician with expertise in the area of attention dysfunction. For an accurate diagnosis, a history of the patient's childhood behavior, together with an interview with his life partner, a parent, close friend or other close associate, will be needed. A physical examination and psychological tests should also be given. Co-morbidity with other conditions may exist such as specific learning disabilities, anxiety, or affective disorders.

A correct diagnosis of ADHD can bring a sense of relief. The individual has brought into adulthood many negative perceptions of himself that may have led to low esteem. Now he can begin to understand why he has some of his problems and can begin to face them. This may mean, not only treatment for ADHD but also psychotherapy that can help him cope with the anger he feels about the failure to diagnose the disorder when he was younger.

Treatment of ADHD in an Adult

Medications – As with children, if adults take a medication

for ADHD, they often start with a stimulant medication (see page 22). The stimulant medications affect the regulation of two neurotransmitters, norepinephrine and dopamine. The newest medication approved for ADHD by the Food and Drug Administration, atomoxetine (Strattera®) has been tested in controlled studies in both children and adults and has been found to be effective.[19]

Antidepressants are considered a second choice for treatment of adults with ADHD. The older antidepressants, the tricyclics, are sometimes used because they, like the stimulants, affect norepinephrine and dopamine. Venlafaxine (Effexor®), a newer antidepressant is also used for its effect on norepinephrine. Bupropion (Wellbutrin®), an antidepressant with indirect effect on the neurotransmitter dopamine, has been useful in clinical trials on the treatment of ADHD in both children and adults. It has the added attraction of being useful in reducing cigarette smoking.

In prescribing for an adult, special considerations are made. The adult may need less of the medication for his weight. A medication may have a longer "half life" in an adult. The adult may take other medications for physical problems such as diabetes or high blood pressure. Often the adult is also taking a medication for anxiety or depression. All of these variables must be taken into account before a medication is prescribed.

Education and Psychotherapy – Although medication gives needed support, the individual must succeed on his own. To help in this struggle, both "psychoeducation" and individual psychotherapy can be helpful. A professional coach can help the ADHD adult learn how to organize his life by using "Props"—a large calendar posted where it will be seen in the morning, date books, lists, reminder notes. Have a special

place to put your keys, your bills, the paperwork of everyday life. Break down tasks into sections, so that completion of each part of the task can give a sense of accomplishment. Above all, learn as much as you can about the disorder.

Psychotherapy can be a useful adjunct to medication and education. First, just remembering to keep an appointment on time with the therapist is a step toward keeping to a routine. Therapy can help change a long-standing poor self-image by examining the experiences that produced it. The therapist can encourage the ADHD patient to adjust to changes brought into his life by treatment—the perceived loss of impulsivity and love of risk-taking, the new sensation of thinking before acting. As the patient begins to have small successes in his new ability to bring organization out of the complexities of his or her life, he or she can begin to appreciate the characteristics of ADHD that are positive—boundless energy, warmth and enthusiasm.

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Resource Books

The following books were helpful resources in the writing of this brochure. Many other informative books can be found at any good bookstore, on a website that offers books for sale, or from the ADD Warehouse catalog (see next page).

Taking Charge of ADHD, by Russell A. Barkley, PhD. New York: The Guilford Press, 2000.

ADHD Attention-Deficit Hyperactivity Disorder in Children and Adults, by Paul H. Wender, MD. Oxford: The Oxford Press, 2000.

Straight Talk about Psychiatric Medications for Kids, by Timothy E. Wilens, MD. New York: The Guilford Press, 1999.

Support Groups and Organizations

These organizations can be contacted by mail or by telephone. If you have a computer, you will be able to access a great deal of information by going to the websites. Many of these organizations have up-to-date information on the Individuals with Disabilities Education Act (IDEA) amendments of 1997 and current updates of the law.

The Attention Deficit Information Network, Inc.
58 Prince St.
Needham, MA 02492

781-455-9895
http://www.addinfonetwork.com

Offers support and information to families of children with ADD, adults with ADD, and professionals through a network of AD-IN chapters.

ADD Warehouse
3200 Northwest 70th Ave., Suite 102
Plantation, FL 33317
800-233-9273
http://addwarehouse.com

A central location for ordering books, tapes, assessment scales, and videos carefully selected to help parents, educators, and health professionals assist people affected by developmental disorders, including ADHD and related disorders. Call or write for catalog.

Center for Mental Health Services
5600 Fishers Lane, Room 15-105
Rockville, MD 20857
800-789-2647
http://www.samhsa.gov

A component of the U.S. Department of Health and Human Services; provides a range of information on mental health, treatment, and support services. Lists Protection and Advocacy for each state.

Children and Adults with Attention Deficit Disorders (CHADD)
8181 Professional Place, Suite 150
Landover, MD 20785
800-233-4050
http://www.chadd.org

A major advocate for those with ADHD. Website has frequently asked questions section and offers information on legal rights.

Council for Exceptional Children
1110 North Glebe Road
Suite 300
Arlington, VA 22201-5704
888-CEC-SPED
http://www.cec.sped.org

Provides materials for educators to use in working with children.

ERIC Clearinghouse on Disabilities and Gifted Education (ERIC)
1110 North Glebe Road
Arlington, VA 22201-5704
800-328-0272
http://www.ericec.org

ERIC (Educational Resources Information Center) is a part of the U.S. Department of Education. ERIC provides information on the education of individuals with disabilities as well as those who are gifted.

Federation of Families for Children's Mental Health
1101 King St.
Alexandria, VA 22314
703-684-7710
http://www.ffcmh.org

Serves the needs of children with serious emotional, behavioral, and mental disorders and their families. Includes publications, information on related seminars and workshops, speaker's bureau, crisis interventon and support groups.

Heath Resource Center
The George Washington University
2121 K St., NW, Suite 220
Washington, DC 20037
800-544-3284
http://www.heath.gwu.edu

Information on financial aid for students with disabilities, including Federal aid, state vocational rehabilitation services, and regional and local sources.

National Center for Learning Disabilities
381 Park Ave., South Suite 1401
New York, NY 10016
212-545-7510
http://www.ld.org

Offers information, resources, and referral services, advocates for more effective policies. As part of website, has IDEA watch.

National Clearinghouse for Alcohol and Drug Information
PO Box 2345
Rockville, MD 20847
800-729-6686
http://www.health.org

Provides information on the risks of alcohol use during pregnancy, and fetal alcohol syndrome.

National Information Center for Children and Youth with Disabilities (NICHCY)
PO Box 1492
Washington, DC 20013
800-695-0285
http://www.nichcy.org

Information about disabilities in children and youth. Good frequently asked questions site on web. Lists resources in every state, including Parent Training and Information Centers (PTI).

U.S. Department of Education
Office of Special Education Programs
400 Maryland Ave., SW
Washington, DC 20202
http://www.ed.gov/offices/OSERS/OSEP/

Excellent Federal Government site for information on Parent Training and Information Centers (PTI) as well as IDEA.

Sibling Information Network
249 Glenbrook Road
Suite U64
Storrs, CT 06269-2064
203-344-7500

Information for affected individuals, their families (including siblings), and professionals.

Tourette Syndrome Association, Inc.
42-40 Bell Boulevard
Bayside, NY 11361-2820
718-224-2999
http://www.tsa-usa.org

Develops and disseminates educational material; promotes research into the causes and cure of Tourette Syndrome. Has support chapters nationwide.

For more information on research into the brain, behavior, and mental disorders contact:

National Institute of Mental Health
Office of Communications
6001 Executive Boulevard, Room 8184, MSC 9663
Bethesda, Maryland 20892-9663
Phone: 301-443-4513 or 1-866-615-NIMH (6464) toll free
TTY: 301-443-8431
FAX: 301-443-4279
FAX 4U: 301-443-5158
E-mail: nimhinfo@nih.gov
Web site: http://www.nimh.nih.gov

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301-443-8431 (TTY)
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Fax numbers:
301-443-4279
301-443-5158 (FAX 4U)

Street address:
National Institute of Mental Health
Office of Communications
Room 8184, MSC 9663
6001 Executive Boulevard
Bethesda, Maryland 20892-9663 USA

ADHD Internet Resources

- https://chadd.org/about-adhd/overview/
- https://www.healthychildren.org/English/health-issues/conditions/adhd/Pages/default.aspx
- https://www.ldonline.org/
- https://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd
- https://www.pacer.org/cmh/learning-center/parenting/support-adhd/
- http://www.add.org
- https://www.additudemag.com/
- https://www.cdc.gov/ncbddd/adhd/facts.html
- https://www.psychiatry.org/patients-families/adhd/what-is-adhd
- https://kidshealth.org/en/parents/adhd.html
- https://www.helpguide.org/home-pages/add-adhd.htm
- https://www.nami.org/About-Mental-Illness/Mental-Health-Conditions/ADHD
- https://childmind.org/topics/adhd-attention-problems/
- https://exceptionalindividuals.com/neurodiversity/what-is-adhd/