

The ABC's of ADD and ADHD!!!

Impact on School Performance

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ADD and ADHD are neurobiological disorders which affects approximately five to twelve percent of all children.

Most recently, the CDC has reported a prevalence rate of 10% which reflects an increase over the past few years. Researchers believe that neurotransmitters, the chemical messengers of the brain, do not work properly causing symptoms of ADD or ADHD. Inattention and impulsivity, the two major characteristics of attention deficits, can make complying with parental requests and succeeding in school more difficult for these children. Symptoms of ADD and ADHD vary from mild to severe. Approximately 25 percent of adults no longer experience major problems with symptoms of the condition. Some children with attention deficits do extremely well in school. However, for many others, underachievement in school is a hallmark characteristic of the condition.

Three major types of Attention Deficit Disorder have been identified:

- **ADHD** (predominately hyperactive-impulsive);
- **ADHD inattentive** (predominately inattentive without hyperactivity--schools call this ADD); plus
- **ADHD, combined type** (a combination of both hyperactivity and inattention).

Children who have ADHD tend to be very energetic, talkative, and outgoing. In contrast, children with ADD inattentive, previously called ADD without hyperactivity, tend to be lethargic, less likely to talk in class, and introverted. Although many children are diagnosed and treated in elementary school, some children, especially those with ADD inattentive or mild cases of ADHD, may not be diagnosed until high school or college.

Although they may be bright intellectually, many **children with ADD or ADHD lag behind their peers developmentally by as much as 30 percent** in certain areas, according to research by Dr. Russell Barkley. Recently researchers at NIH actually discovered that the ADHD brain matures three years more slowly than the non-ADHD brain. This translates into a delay of 4-6 years for teenagers. As a result they may seem immature or irresponsible. They are less likely to remember their chores or assignments, complete their work independently, are more likely to say things or act impulsively before thinking, and the quality and amount of their work will fluctuate from day to day. Consequently, parents and teachers may need to provide more positive feedback, supervise school work more closely, give reminders of homework, and interact more frequently with each other to help the child cope with this disability.

Research has shown that **medication can help most children** with ADD and ADHD improve their performance at home and school. Medications commonly used to treat attention deficits such as Adderall, Concerta, Strattera, Ritalin or Dexedrine, help the neurotransmitters norepinephrine, dopamine, and serotonin work properly. Thus, when medication is effective, attention and concentration improve, more chores and school work are completed, compliance with adult requests increases, hyperactivity and impulsivity decrease, and negative behaviors decrease.

Frequently, **ADD or ADHD may coexist with other major problems**--learning disabilities (25-50%), sleep disturbances (50%), anxiety (37%), depression (28%), bipolar (12%), oppositional behavior (59%) substance abuse (5-40%), or conduct disorder (22-43%)-which further complicates their treatment and school work.

The majority of children with ADD or ADHD will experience difficulty in school (90%). Common learning problems and their practical implications for home and school performance are described below. However, keep in mind that each child with an attention deficit is unique and may have some, but not all these problems.

1. **Inattention and poor concentration:** difficulty listening in class; may daydream; spaces out and misses lecture content or homework assignments; lack of attention to detail, makes careless mistakes in work, doesn't notice errors in grammar, punctuation, capitalization, spelling, or changes in signs (+,-) in math; difficulty staying on task and finishing school work; distractible, moves from one uncompleted task to another; lack of awareness of time and grades, may not know if passing or failing class.

2. **Impulsivity:** rushes through work; doesn't double check work; doesn't read directions; takes short cuts in written work especially math (does it in his head); difficulty delaying gratification, hates waiting.
3. **Language Deficits:** slow processing of information; reads, writes, and responds slowly; recalls facts slowly; more likely to occur in children with ADD inattentive. Three language-processing problems may be common among children with ADD or ADHD.
 - 1) Listening and Reading Comprehension: becomes confused with lengthy verbal directions; loses main point, difficulty taking notes; difficulty following directions; may not "hear" or pick out homework assignments from a teacher's lecture; poor reading comprehension, can't remember what is read, must reread material.
 - 2) Spoken Language (oral expression): talks a lot spontaneously (ADHD); talks less in response to questions where they must think and give organized, concise answer; avoids responding in class or gives rambling answers.
 - 3) Written Language: slow reading and writing, takes longer to complete work, produces less written work; difficulty organizing essays; difficulty getting ideas out of head and on paper; written test answers or essays may be brief; responses to discussion questions may be brief.
4. **Poor Organizational Skills:** disorganized; loses homework; difficulty getting started on tasks; difficulty knowing what steps should be taken first; difficulty organizing thoughts, sequencing ideas, writing essays, and planning ahead.
 - 1) Impaired Sense of Time: loses track of time, is often late: doesn't manage time well, doesn't anticipate how long task will take; doesn't plan ahead for future.
5. **Poor Memory:** difficulty memorizing material such as multiplication tables, math facts or formulas, spelling words, foreign languages, and/or history dates.
 - 1) Math Computation: difficulty automatizing basic math facts, such as multiplication tables, cannot rapidly recall basic math facts.
 - 2) Forgetful: forgets chores or homework assignments; forgets to take books home; forgets to turn in completed assignments to teacher; forgets special assignments or make-up work.
6. **Poor Fine Motor Coordination:** handwriting is poor, small, difficult to read; writes slowly; avoids writing and homework because it is difficult; prefers to print rather than write cursive; produces less written work.
7. **Weak Executive Functioning:** Sometimes very bright students with attention deficits do poorly in school. One of Dr. Russell Barkley's latest research findings focus on the role weak executive functioning plays in school failure, (deficits in working memory, control of emotions and behavior, internalizing language, problem-solving, and organization of materials and action plans). High IQ alone is not enough for students to succeed in school! For more details, read my next article about Executive Function that is located on this website.

Difficulties in school may be caused by a combination of several learning problems: a student may not take good notes in class because he can't pay attention, can't pick out main points, and/or his fine-motor coordination is poor. A student may not do well on a test because he reads, thinks, and writes slowly, has difficulty organizing his thoughts, and/or has difficulty memorizing and recalling the information.

Identification of learning problems plus implementation of appropriate accommodations in the regular classroom are critical.

Under IDEA and/or Section 504, children with ADD or ADHD whose ability to learn is adversely affected by the disorder are eligible for accommodations.

Common classroom accommodations which are extremely helpful to children with attention deficits include:

- untimed tests;
- use of calculator or computer;
- modification of assignments (fewer math problems but still masters concepts);
- elimination of unnecessary writing--write answers only not questions;
- reduced demands on limited working memory capacity;
- written homework assignments given by teachers;
- utilization of note-takers or guided lecture notes.

Accommodations should be individualized and made to accommodate each child's specific learning problems.

Other factors related to ADD or ADHD may also influence the child's school work:

1. **Restlessness** or hyperactivity in younger children: Can't sit still in seat long enough to complete work.
2. **Sleep Disturbances:** Children may come to school feeling tired; may sleep in class. Many children with attention deficits (50%) have difficulty falling asleep at night and waking up each morning. Approximately half of them wake up tired even after a full night's sleep. Children may have battles with their parents before arriving at school. This suggests that there are problems with the neurotransmitter serotonin.
3. **Medication Wears Off:** With the advent of long-acting medications like Adderall XR, Concerta, Vyvance, and Strattera, problems with medication wearing off at school are less common. However, the effects of short-acting medications such as Ritalin or Dexedrine (regular tablets) wear off within three to four hours and children may begin having trouble paying attention around ten or eleven o'clock in the morning. Even the intermediate range medications (6-8 hours) like Ritalin SR, Dexedrine SR, Metadate ER, or Adderall may wear off by early afternoon. Class failure, irritability, or misbehavior may be linked to times when medication has worn off.
4. **Low Frustration Tolerance:** Children with attention deficits may become frustrated more easily and "blow-up" or impulsively say things they don't mean, especially as their medication is wearing off. They may blurt out answers in class. Or they may be argumentative or impulsively talk back to a teacher. Transitions or changes in routine, such as when substitute teachers are present, are also difficult for them.

Since most children with ADD or ADHD are not as easily motivated by consequences (rewards and punishment) as other children, they may be more difficult to discipline and may repeat misbehavior. Although they would like very much to make good grades on a test or at the end of the semester, these rewards (grades) may not occur quickly enough nor be strong enough to greatly influence their behavior. Frequently, they start out each new school year with the best intentions, but cannot sustain their efforts. Positive feedback or rewards are effective but must be given immediately, must be important to the child, and must occur more frequently than for other children. Consequently, sending home daily or **weekly reports** regarding school work should help improve grades.

Typically their misbehavior is not malicious but rather the result of their inattention, impulsivity, and/or failure to anticipate the consequences of their actions. As my friend and colleague Sherry Pruit explains in *Teaching the Tiger*, "Ready. Fire! And then, Aim...oops!!", may more accurately describe the behavior of children with attention deficits. They may not think before they act or speak. They also have trouble controlling their emotions. If they think it, they often say or do it. If they feel it, they show it. Belatedly, and with remorse, they realize they should not have said or done certain things. Giving children choices regarding chores or homework, for example, at home, selecting their chore, determining which subject is first and establishing a starting time, will increase compliance, productivity, and reduce aggression (at school, selecting topics for essays or reports).

Youngsters with ADD or ADHD have many positive qualities and talents (high energy, outgoing charm, creativity, and figuring out new ways of doing things). Although these traits may be valued in the adult work world, they may cause difficulties for these students and his parents and teachers. Their high energy, if properly channeled, can be very productive. Although sometimes exasperating, they can also be extremely charming in their self-appointed role as class clown. Typically, children with ADD inattentive tend to be quieter and present few, if any, discipline problems. When they become adults, children with attention deficits can be very successful. Having parents and teachers who believe in a child is essential for success!!!