Neuropsychological
Services of Santa Clara Valley
Alice Ruzicka, Ph.D., ABN, FACPN
Licensed Psychologist PSY13284
Diplomate, American Board of Professional Neuropsychology
Fellow, American College of Professional Neuropsychology

Information regarding Attention-Deficit/Hyperactivity Disorder (ADHD) from the DSM-IV Inattention

Alice Ruzicka, Ph.D., ABN, FACPN

Inattention may manifest in academic, occupational, or social situations. Individuals with this disorder may fail to give close attention to details or may make careless mistakes in schoolwork and other tasks. Work is often messy and performed carelessly and without considered thought. They often appear as if their mind is elsewhere or as if they are not listening.

There may be frequent shifts from one uncompleted activity to another. They may begin a task, move on to another, then turn to yet something else prior to completing any one task. They often do not follow through on requests or instruction and fail to complete work. The failure to complete tasks should only be used as a consideration for this diagnosis if it is due to inattention as opposed to other reasons (failure to understand, etc.).

Tasks that require sustained mental effort are experienced as unpleasant and markedly aversive. The avoidance of these tasks must be due to the person's difficulties with attention and not due to a primary oppositional attitude, though secondary oppositionalism may also occur.

Work habits are often disorganized and the materials necessary for doing the task are often scattered, loss, or carelessly handled. Individuals with this disorder are easily distracted by irrelevant stimuli and frequently interrupt ongoing tasks to attend to trivial noises or events that are usually and easily ignored by others (e.g. background conversations, cars honking).

They are often forgetful regarding daily activities (missing appointments, forgetting to bring lunch, etc.)

In social situations inattention may be expressed as frequent shifts in conversation, not listening to others, not keeping one's mind on the conversations, and not following details or rules of games or activities.

Hyperactivity
Hyperactivity may be manifested by fidgetiness or squirming in one's seat. Hyperactivity may vary with the individual's age and developmental level, and the diagnosis should be made carefully in young children. Toddlers and preschoolers with this diagnosis differ from normally active young children by being constantly on the go and into everything. They dart back and forth and are jumping and climbing on furniture. They run through the house and have difficulty participating in sedentary group activities such as listening to a story. School age children have similar tendencies, but to a less marked degree. They have difficulty remaining seated. They get up frequently, squirm or hang onto the edge of their seat. They fidget with objects, taps their hands or pencils, shake their feet or legs. They often get up from the table during meals, while watching television, or doing homework. They talk excessively and they make excessive noise during quiet activities. In adolescents or adults, symptoms of hyperactivity take the form of feelings of restlessness and difficulty engaging in quiet sedentary activities.

Impulsivity
Impulsivity manifests in impatience, difficulty in delaying responses, blurting out answers, and frequent interrupting. Others may complain that they cannot get a word in edgewise. Individuals with this disorder typically make comments out of turn, fail to listen to directions, initiate conversations at inappropriate times, interrupt others excessively, grab objects from others, touch things they aren't supposed to touch, and clown around. To make the diagnosis, some impairment must be present in at least two settings, e.g., school and home. However, it is unusual for an individual to display the same level of dysfunction in all settings or within the same setting at all times. Symptoms typically worsen in situations that require sustained attention or mental effort or that lack intrinsic appeal or novelty. Signs of the disorder may be minimal or absent when the person is under very strict control, is in a novel situation, is engaged in something especially interesting, is in a one-to-one situation (e.g., the clinician's office), or while the person experiences frequent rewards for appropriate behavior. The symptoms are more likely to occur in group situations.

Associated Features
Associated features vary depending on age and developmental stage. These may include:

- Low frustration tolerance
- Temper outbursts
- Bossiness
- Stubbornness
- Excessive and frequent insistence that requests be met
- Mood lability
- Demoralization
- Dysphoria
- Rejection by peers
- Poor self-esteem
- Academic achievement is often impaired and devalued
- Others may think the individual is lazy because they do not sustain attention
- A poor sense of responsibility
- Oppositional behavior
- Strained family relations
- The individual may obtain less schooling
- Poorer vocational achievement

Associated Laboratory Findings
There are no laboratory tests that have been established as diagnostic in the clinical assessment of ADHD.

Associated Physical Exam Findings and General Medical Conditions
There are no specific physical features associated with ADHD. There may be a higher rate of physical injury and minor physical anomalies occur more often (high palate, low-set ears).

Specific Culture, Age and Gender Features, and Prevalance
ADHD is in every culture. The estimated prevalence is 3-5% in school age children. The data on older children and adults is very limited. The incidence is more frequent in males than females with male to female rations ranging from 4:1 to 9:1.

Familial Patterns
Attention-Deficit/Hyperactivity Disorder is found more commonly in first-degree biological relatives of children with ADHD. There is also a higher prevalence of Mood and Anxiety Disorders, Learning Disorders, Substance-Related Disorders, and Antisocial Personality Disorder in family members of individuals with ADHD.

Differential Diagnosis
It may be difficult to distinguish symptoms of ADHD from age appropriate behaviors in active children.

When intelligent children are in an understimulating environment, their behavior may mimic ADHD.

Reports from multiple informants are helpful in providing a confluence of observations concerning the child's inattention, hyperactivity, and capacity for developmentally appropriate self-regulation in various settings.

Individuals with oppositional behavior may resist work or school tasks that require self-application because of an unwillingness to conform to others' demands. These symptoms must be differentiated from the avoidance of school tasks seen in individuals with ADHD. Complicating the differential diagnosis is the fact that some individuals with ADHD develop secondary oppositional attitudes toward such tasks and devalue their importance, often as a rationalization for their failure.

ADHD is not diagnosed if the symptoms are better accounted for by another mental disorder (e.g., mood disorder, anxiety disorder, personality change due to a general medical condition, pervasive developmental disorder, psychotic disorder, or a substance-related disorder). In these disorders, the symptoms of inattention typically have an onset after the age of 7 years, and the childhood history of school adjustment generally is not characterized by disruptive behavior or teacher complains concerning inattention, hyperactive, or impulsive behavior. A mood disorder or anxiety disorder can co-occur with ADHD.

Treatment for ADHD

The development of an appropriate treatment plan for ADHD critically hinges on an accurate understanding of the contributing underlying issues for each individual assessed. Part of the differential diagnosis for ADHD is the necessity to rule out other disorders. A child (or adult) might have an underlying organic basis for their disorder, or they could appear to have ADHD but actually be manifesting behaviors caused by other factors such as conflicts at home, school, or work, or could be suffering from depression or post traumatic stress disorder. Physical causes must also be ruled out to the degree possible. It is important to rule out inadequate nutrition, sugar-sensitivity, food allergies, a mild seizure disorder, closed head injury, and thyroid problems. Children with pervasive developmental disorders, auditory processing disorders, hearing problems, Tourette syndrome, and anxiety disorders have behaviors which could mimic ADHD. The psychologist and physician each have a responsibility for assessment and treatment. To complicate matters, even those with a clear diagnosis of ADHD sometimes have other co-existing conditions. It is not always possible to "rule out" the comorbid conditions.

The treatment which is most common, and often most effective for treatment of Attention Deficit Disorder (Primarily Inattentive Type, Primarily Hyperactive Type, or Combined Type) is the use of stimulant drugs. Medication combinations are often effective, and sometimes include antidepressants or other classes of drugs. However, medication alone is not the answer for most people with ADHD and not everyone is able to benefit from medication. Combining therapies often leads to better results. The most effective treatment is a combination of appropriate behavior management and counseling for both child and parents, along with medication, and good communication with the school teacher. It is essential that the child have a good school placement, and that the parents are using good discipline measures. Because most children with ADHD have problems in organizational skills, a good plan will necessarily include organizational strategies to be implemented at school and at home.

Alternate Therapies. Some parents want to try other therapies in lieu of medication. Many are concerned because the drugs have been over-prescribed in some parts of the country as a

panacea for behavioral problems and because the use and abuse of medication is growing substantially. Again, for any treatment to be successful, the importance of diagnosis cannot be overemphasized.

Other therapies that have been useful for some people include:

Counseling to assist the child and parents to understand the disorder. It might include cognitive coaching, assistance in parenting and behavior management, as well as education.

Modification of diet. A well-balanced diet including protein at breakfast, and elimination diets. Nutritional supplements can sometimes be helpful but should be monitored by the physician.

Neurofeedback. This can be useful in the short-run, but has generally not been found to have long-lasting effects. When the neurofeedback sessions end, the symptoms often return. The process can take 40 to 80 individual treatments and can be excessively expensive.

Educational Assistance. Classroom modifications may include placing the child in the least distracting environment or position in the classroom, placement in smaller classes, clear structure and communication, and assistance with organization (getting assignments written down, completed, and turned in). Many children need to be taught how to start an assignment, how to break down the tasks, and how to follow written directions. Establish clear routines.

Cognitive-Mediational Strategies. Meichenbaum and others have developed cognitive strategies as a means of developing self-control through self-awareness and thinking strategies. Self-instructional stragegies have been successful in reducing impulsive responding, increasing planning, concentration and reasoning, as well as assisting in social skills and accuracy of academic work.

Social Skills Training groups can be effective because children with impulsivity and inattention often lack good social skills and anything that helps them become more self aware and aware of how to behave with others will increase self-esteem.

Auditory Integration Training. While this treatment is still quite new in this country, many parents have found that the new ability their children have to be able to tolerate noise and to listen more effectively and accurately has made significant differences for their children who have Attention Deficit Disorder or traits.

Adults sometimes suffer long-term consequences when they have undiagnosed and untreated ADHD. Educational difficulties are not uncommon, as well as difficulties on the job and in social settings. Self-esteem issues are common as well as problems in relationships with spouses and family members. IT IS NOT TOO LATE. Adults can seek an evaluation and diagnosis as well as children. Adults can find support groups and can become educated on the disorder. The right career path—one that matches your style with the job demands—can make a huge difference in one's life. The earlier you learn about ADHD, the easier the path.

Use of appropriate medication for ADHD does not lead to drug abuse. In fact, people who have untreated ADHD are over-represented in the juvenile justice system and in the adult justice system. They tend to self-medicate with drugs and alcohol and lack of treatment makes the untreated ADHD individual more vulnerable to drug abuse.

Tips for Teachers on Working with ADHD Students

Find the optimal seating in the classroom.

Provide opportunities for the student to give and receive feedback about what he is working on in the classroom.

Use a home/school feedback system to reinforce academics and appropriate classroom behavior.

Modify the length of assignments.

Modify the assignments (not just every other problem, but sometimes using different books, different curriculum, or another way to do the work).

Use instructional materials that focus on the student's selective attention, i.e., multisensory instruction, use of color and novelty.

Set up a feedback program with the individual student so he or she knows what is expected and how they are doing. This could be a star chart on the child's desk for on-task behavior, for appropriate raising of hand, etc.

Set up a nonverbal signal so you can give feedback to the impulsive/inattentive child without always having to use the child's name in class.

Children perform best in highly structured, quiet classrooms that have clear expectations and clear follow-through. Some children need the teacher to check their backpack to make sure they have all their materials before they leave. Some need less drastic measures. Remember, disorganization is one of the common features for children with ADHD. They CAN'T organize, so they need specific instruction and frequent follow-through such as having binder checks and desk checks daily or weekly.

Children with ADHD often lack self-awareness and social skills. Have individual discussions with the student(s) to help build problem solving skills, social awareness, and self-awareness in a nonjudgmental environment.

To get the student's attention re-focused on the work at hand, a light touch on the shoulder or "visiting" the student's desk often is helpful.

Catch the student "being good" to reinforce positive on-task behavior and comment on how well he was listening when he is doing a good job.

Transition times are difficult. Warn the students about transitions beforehand.
Allow children with ADD to be at the beginning or the end of the line (less pushing)

Seat the student where you can give him or her direct eye contact, away from noises and distractions (such as the door opening). Place the child near the teacher.

Have a routine and schedule and stick to it. Things should be well defined and rules should be posted. Be consistent in enforcing rules.

Do not give too many directions at once. If unsure, have the student repeat it back to you. Write out complicated directions and make certain that the student has a copy.

Never discipline a student when you are angry.