

*Report on*

***Attention Deficit Hyperactivity  
Disorder (ADHD)***

*Connecticut ADHD Task Force  
3<sup>rd</sup> Edition  
Spring 2005*

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# Foreword

Dear Colleague:

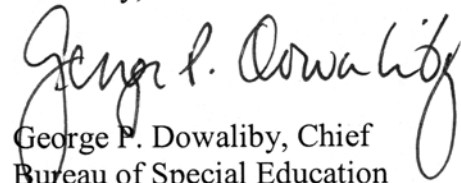
I am pleased to share with you the 2005 edition of the *Report of the Connecticut Task Force on ADHD*. The 2005 edition is a revision of the 1998 Task Force Report which reflected the diagnostic criteria as published in the fourth edition of the American Psychiatric Association's Diagnostic and Statistical Manual, (DSM-IV R), published in May 1994. This new edition adds current educational, psychological and medical interventions.

Implicit in this report is the strong emphasis on the coordination and collaboration among school, home and medical personnel who deal with children diagnosed with Attention Deficit Hyperactivity Disorder (ADHD).

I am hopeful that this report will assist you to ensure that individuals with ADHD achieve at high levels in school, master the goals in the Common Core of Learning, and become productive and responsible citizens.

You are encouraged to make copies of this report and distribute it to interested parties.

Sincerely,



George P. Dowaliby, Chief  
Bureau of Special Education  
Connecticut State Department of Education

# I Acknowledgments

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The ADHD Task Force wishes to thank the many individuals who have served on the Task Force since its inception, and who have provided time, effort, and expertise in guiding the group and producing the original, second, and current revision of this report. The members want to pay special gratitude to the contributions of Ann Seigel, who was the primary motivating force for this project from its inception in 1988, and whose wisdom, patience, and perseverance contributed to the current edition.

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## II Introduction and Goals

Almost every classroom in America contains one or more children who experience serious difficulty with inattention, hyperactivity, impulsivity or all three. School personnel find them challenging to teach because they do not respond in the same way as other children, and these symptoms often also result in behaviors that interfere with their education.

These children, whose condition is referred to as Attention Deficit/Hyperactivity Disorder (ADHD), are at risk for academic difficulties and social and emotional challenges unless they receive appropriate interventions. The purpose of this document is to provide an integrated source of information that reflects the most current knowledge about ADHD from medical, educational, social, and psychological perspectives. It is hoped that this information will be useful to educators, parents, and other involved individuals as they seek to help children with ADHD.

This report by the Task Force on ADHD will act as a catalyst to facilitate the integration of a multidisciplinary approach for wider recognition of the disorder and the proper referral, diagnosis, treatment and education of individuals with ADHD. The Task Force will provide leadership in promoting education, resource development, integrated support systems, professional training, and advocacy.

*The Connecticut Task Force on ADHD does not endorse or recommend any service, treatment, theory, or institution. The contents of this report are for informational purposes only.*

# III History of the Connecticut Task Force on Attention Deficit Hyperactivity Disorder

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## *February 1988*

Members of the Board, the Professional Advisory Board, and parent members of the Learning Disabilities Association of Connecticut (LDA); representatives from the Connecticut Association of Children with Learning Disabilities (CACLD); and a representative of Children and Adults with Attention Deficit Disorders (CHADD) organize an ADHD study committee whose purpose is to: 1. clarify the legal definition of disability as related to ADHD; and, 2. advise the State Special Education Advisory Council of its concerns related to students with ADHD.

## *Fall 1988*

Committee develops and distributes a position statement on ADHD to State Special Education Advisory Council and LDA members. A survey is sent to CACLD, CHADD, LDA membership, and selected others; response to the position statement is favorable.

## *Spring 1989*

Connecticut Council of Administrators of Special Education (CONNCASE) reacts to position statement and agrees to meet with the Study Committee.

## *Summer 1990*

Study Committee reorganizes as an independent Task Force, adding members from medical, mental health, and additional special education disciplines.

## *Fall 1990*

Task Force develops a Medical Issues subcommittee. The addition of an Education Issues subcommittee is discussed. Plans are made to hold a conference on ADHD for school professionals under the joint sponsorship of the Connecticut Special Education Resource Center (SERC), CONNCASE, LDA, CHADD and CACLD in the spring of 1991.

## *Winter 1990/91*

The Task Force develops a needs assessment for the conference on ADHD and contributes to the Federal Department of Education's inquiry on ADHD as a disabling condition.

## *Spring 1991*

Discussion of continuation concludes with decision to re-examine Task Force mission, goals, and objectives.

## *Summer 1991*

Task Force members develop vision and goal statement and begin process of specifying objectives to achieve goals.

***Fall 1991***

Task Force requests the State Department of Education (SDE) to issue a response to the September federal memorandum on ADHD. Suggestions for content are made.

***Spring 1992***

Workshops on ADHD continue under SERC sponsorship. Work begins on a Task Force Report. Much of Connecticut's report is based upon a similar task force effort published by the Virginia Department of Education, with assistance and consultation from Virginia's ADHD Task Force and Dr. Ron Reeve, Associate Professor at Curry School of Education, University of Virginia.

***Winter 1992/93***

Connecticut State Department of Education issues Memorandum concerning ADHD.

***Spring/Fall 1993***

Work continues on Task Force Report.

***Winter 1993/94***

Task Force completes and disseminates its first report to Connecticut school administrators. Information in SERC newsletters makes Task Force Report available to others.

***Spring 1994***

Regional Forums related to the report are provided for Connecticut school administrators.

***Fall 1994***

Regional Forums related to the report are provided for parents. Outreach to medical/mental health professionals, Department of Children and Families, and Early Childhood Network is initiated.

***Winter 1994/Spring 1995***

Workshops provided by SERC as a result of feedback from Forums. Work begins on revision of Task Force Report to bring it in line with new ADHD criteria (DSM IV 1994).

***Summer and Winter 1996***

Revisions on Task Force Report completed and sent to Bureau of Special Education, State Department of Education for review/final revision.

***Spring and Fall 1997***

Revisions conducted by the State Department of Education.

***Winter 1998***

Revised Task Force Report disseminated.

***Fall 2003***

Task Force begins work on Third Edition, to incorporate recent State and Federal legislation changes, and scientific, medical and educational advances.

# IV Historical Background of Attention Deficit Hyperactivity Disorder

The condition now called “Attention-Deficit/Hyperactivity Disorder” (ADHD) has been recognized for at least the last half-century. Although descriptions of ADHD-associated behaviors have been remarkably consistent over the years, the *name* of the syndrome has changed several times.

Early terminology was based on assumptions about the causes of the disorder. In the 1930s and 1940s, children with the ADHD-like behaviors were called “brain damaged” or “brain injured” because it was known that brain damaged individuals showed similar behaviors. In the 1950s and 1960s, it became clear that, although many children exhibited the same set of behaviors as those called “brain damaged,” neither a definitive history of brain trauma, nor the presence of abnormal neurological signs could be documented. The assumption was made that neurological dysfunctions were causing these problems, but were too subtle to be detected with available medical procedures. Therefore, the term “Minimal Brain Dysfunction” came into common use.

“Hyperactive” or “Hyperkinetic” became the term of choice for characterizing these children by the 1960s. The argument was made, especially in education and psychology circles, that the diagnosis of the underlying disorder was based on behavioral criteria, not on any documented medical evidence. Thus, it made sense to use a term that was descriptive of observable behavior. At that time, excessive motor activity was considered the central problem evidenced by these children. Hence, the term “hyperactivity” became widely used.

By the 1970s, most professionals were in agreement that difficulties in attention and concentration were more critical symptoms of the disorder than hyperactivity, and were the primary reason that these children experienced so much social and academic difficulty. Therefore, during the 1980s and early 1990s, the emphasis changed again, favoring neither the attentional or hyperactivity/impulsivity features, but recognizing the unique contributions of each.

The second edition of the *Diagnostic and Statistical Manual of Mental Disorders, (DSM-II)*, published in 1968 by the American Psychiatric Association (APA), was the first to name this syndrome. It was called “Hyperkinetic Reaction of Childhood” and described more as clinical impressions than multi-faceted, interactive behavioral symptoms.

The 1980, *DSM-III* changed the syndrome name to “Attention Deficit Disorder” (ADD). Two types were specified: *with* hyperactivity (ADD + H), and *without* hyperactivity (ADD-H). Diagnosis required the presence of a minimum set of behavioral criteria that were present prior to age seven, had lasted at least six months, and were evident in all three dimensions of the syndrome: attention, hyperactivity, and impulsivity.

The 1987, *DSM-III-R (Revised)* changed “Attention Deficit Disorder” to “Attention Deficit Hyperactivity Disorder” (ADHD). Rather than requiring symptoms from each of the three dimensions, it listed 14 symptoms, any eight of which were sufficient for diagnosis. ADD-H was not included, but changed to a vaguely defined category. Symptoms were now required to be *clearly developmentally inappropriate* and emphasis was placed on their co-existence with other

affective disorders.

The *DSM-IV R*, published in May of 1994, has named the syndrome “Attention-Deficit/Hyperactivity Disorder” (ADHD) in order to preserve continuity. ADHD is now divided into four major types, however, with a separation of attention problems from those of hyperactivity and impulsivity in the first three. (For a fuller description of the new criteria, see Section VI, “Current Definition”).

This latest version of ADHD diagnostic criteria offers significant improvement over earlier ones in that it is more descriptive of academic vulnerability, recognizes that diagnosis requires the input of many people who know the child well, and includes reporting about the child’s behavior across multiple settings.

Although most professionals now use the term ADHD to characterize these children, some of the older terms may continue to be used in the professional literature and in the popular press and media.

Estimates of incidence rates of ADHD vary widely, from less than 1% to more than 20% of the population. This variation occurs because of the imprecision of terms such as “hyperactivity” and “impulsivity.” The best current estimates are that between 3% and 5% of school children have this disorder.

# V Current Definition

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According to *DSM-IV R* (APA, 1994), the essential feature of ADHD is "...a persistent pattern of inattention and/or hyperactivity-impulsivity which is more frequent and severe than is typically observed in individuals at a comparable level of development. Symptoms of ADHD must be present before age seven years, and must interfere with developmentally appropriate social, academic, or occupational functioning in a least two settings (for example, at home and at school, or at home and at work).

Although symptoms of ADHD may be less noticeable as the person matures, or in novel, highly controlled or reinforcing situations, symptoms of inattention, hyperactivity/impulsivity, or all three, are usually present in at least two settings.

Associated features of ADHD, which vary according to age, developmental stage, and *type*, may include "low frustration tolerance, temper outbursts, bossiness, stubbornness, mood lability (changes), demoralization, rejection by peers, poor self esteem, academic underachievement and problematic couple and family relationships."

While the disorder is usually not diagnosed prior to school entry, problems often are noted before age four. Males are diagnosed at least three times more often than females, although available evidence indicates that females are probably underdiagnosed.

ADHD is often inherited. It is very common to find that relatives of a child with ADHD were, or are, considered to be hyperactive, impulsive, inattentive, or all three, at school, in the community, or at work.

The *DSM-IV R* attempts to clarify the diagnosis of ADHD by separating symptoms of inattention from those of hyperactivity-impulsivity and denotes four separate types of ADHD. The new diagnostic criteria for the three main types specify that symptoms must have been present before age seven and have persisted for at least six months to a degree that is *maladaptive and inconsistent with the child's developmental level* (APA, 1994).

For the diagnosis of **ADHD, Combined Type**, six or more symptoms listed under the *Inattention* criteria below, and six or more of the symptoms listed under *Hyperactivity-Impulsivity* must have been met for a period of at least six months.

For the diagnosis of **ADHD, Predominantly Inattentive Type**, six or more symptoms listed under *Inattention*, but fewer than six symptoms under *Hyperactivity-Impulsivity* must be met for at least six months.

For a diagnosis of **ADHD, Predominantly Hyperactive-impulsive Type**, six or more symptoms listed in the *Hyperactivity-Impulsivity* criteria, but fewer than six symptoms listed under *Inattention* must be met for at least six months.

Additionally, there is a fourth type, **ADHD, Not Otherwise Specified**, in which there are prominent symptoms from the *Inattention* and/or *Hyperactivity-Impulsivity* criteria lists, but these are not sufficient to meet criteria for ADHD.

## **Inattention Criteria:**

- (a) Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- (b) Often has difficulty sustaining attention in tasks or play activities
- (c) Often does not seem to listen when spoken to directly
- (d) Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
- (e) Often has difficulty organizing tasks and activities
- (f) Often avoids, dislikes, or is reluctant to engage in tasks which require sustained mental effort (such as schoolwork or homework)
- (g) Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
- (h) Is often easily distracted by extraneous stimuli
- (i) Is often forgetful in daily activities

## **Hyperactivity Criteria:**

- (a) Often fidgets with hands or feet or squirms in seat
- (b) Often leaves seat in classroom or in other situations in which remaining seated is expected
- (c) Often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- (d) Often has difficulty playing or engaging in leisure activities quietly
- (e) Is often 'on the go' or often acts as if "driven by a motor"
- (f) Often talks excessively

## **Impulsivity Criteria:**

- (g) Often blurts out answers before questions have been completed
- (h) Often has difficulty awaiting turn
- (i) Often interrupts or intrudes on others (e.g., butts into conversations or games)

It should be emphasized that children with **ADHD, Predominantly Hyperactive-Impulsive Type**, or **ADHD, Combined Type**, often draw attention to themselves through externalized behaviors, such as aggression or unusually high levels of verbal or physical activity. Therefore, they are diagnosed and treated at a higher rate.

Nonetheless, children with **ADHD, Predominantly Inattentive Type**, tend to be more socially withdrawn and their academic performance relatively poorer. Therefore, though less visible and consequently less likely to be diagnosed than their hyperactive counterparts, they are also at great risk for academic and/or social difficulties and likewise require early and comprehensive interventions.

The consensus of this Task Force is that it is important to note that *the behaviors listed above are*

*not limited to children with ADHD.* Children from disorganized, chaotic environments also may have difficulty sustaining attention and behaving in a goal-oriented manner. Depressed or anxious children, or those with other emotional disorders, may exhibit problems with attention, hyperactivity, or impulsivity. Physical illnesses, inappropriate academic settings, some medications, stress, trauma, poor hearing and/or vision, and inadequate nutrition may produce behaviors that look similar to those that characterize ADHD. Differential diagnosis, therefore, is not an easy task.

American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders-IV*. Washington, DC.: Author.

## VI Relationship to Special Education Categories

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Under the current categories of disabilities included in the Individuals with Disabilities Education Act (IDEA 2004), ADHD is not considered a separate “disability condition.” However, *if the disorder adversely affects the child’s educational performance*, eligibility for special education instruction under existing categories, such as specific learning disability (LD), emotional disturbance (ED), or other health impaired (OHI), should be considered.

Adverse educational performance refers to the student’s performance in any area, including academic, vocational, social, emotional, and personal life skills. When ADHD co-exists with other disabilities, appropriate interventions should be included in the Individualized Education Program (IEP) to address the individual’s ADHD-related difficulties.

### Specific Learning Disability

According to IDEA 2004, the term learning disability *means a disorder in one or more of the basic psychological processes involved in the understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia..”*

Not all children with learning disabilities have ADHD. Children who have a learning disability could have been diagnosed based on language-based problems, or due to visual or auditory perceptual difficulties, and have few symptoms of ADHD. However, many children with learning disabilities do have substantial difficulties with attention, impulsivity and hyperactivity to the extent that they can be considered ADHD as well. It appears reasonable to estimate that between 25-50% of children diagnosed with learning disabilities also have ADHD (Barkley, 1998; Mayes, Calhoun, and Cromwell, 2000).

Likewise, not all children with ADHD are learning disabled. IDEA 2004 states that “*in determining whether a child has a specific learning disability, a local education agency may use a process which determines if a child responds to scientific, research-based intervention[s].”* Since the former criteria under IDEA 1997 for the category of learning disabled required a *severe discrepancy between achievement and intellectual ability*, the majority of children with ADHD may not have qualified for a diagnosis of learning disabilities prior to June 2005. However, these children could possibly now qualify under the category of either learning disabled (LD) or other health impaired (OHI).

Current knowledge demonstrates a substantial overlap between ADHD and LD, although it is not known at this time whether the two disabilities, or possibly subtypes of each, stem from common or from separate neurological differences. However, if a child cannot attend to appropriate information in the classroom, sustain attention, or overcome the impulse to respond before instructions are completed, his/her education and achievement will probably be compromised. Gaps in the acquisition of reading and math skills, which build systematically from simpler to

more complex learning, may occur, resulting in failure, frustration and decreased motivation.

## **Emotional Disturbance**

According to IDEA 2004, the term *emotional disturbance* is defined as follows: (i) the term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance: (A) An inability to learn that cannot be explained by intellectual, sensory, or health factor. (B) An inability to build or maintain satisfactory interpersonal relationships with peers and teachers. (C) Inappropriate types of behavior or feelings under normal circumstances. (D) A general pervasive mood of unhappiness or depression. (E) A tendency to develop physical symptoms or fears associated with personal or school problems.

Many children who are emotionally disturbed (ED) demonstrate enough characteristics of ADHD to carry both diagnoses. Likewise, many children who are diagnosed as ADHD may exhibit other serious social and emotional deficits (oppositional defiant disorder, depression, bipolar disorder, anxiety). While the extent of overlap is difficult to clearly identify, investigators have reported a co-occurrence of ED and ADHD in up to 60% in children (Pliszka, 1998).

Which is primary? Do emotional problems lead to attention problems because anxiety or depression interferes with the ability to concentrate? Or, is there something about the nature of ADHD that predisposes children to develop social/emotional difficulties? Researchers are attempting to tease-out these issues (Sonuga-Barke, 2002). However, a case certainly can be made for ADHD as the root of some emotional problems. In the homes of children with ADHD we know that more negative interactions occur among family members. Both the child's behavior and family interaction patterns influence the child's adjustment at school age (Sonuga-Barke).

Likewise, early peer interactions, which are precursors to social satisfaction, are often problematic in many children with ADHD. At preschool ages, children with ADHD, especially those who exhibit hyperactivity, are strikingly unpopular (Odom, McConnell, and Chandler, 1995). They seem to miss social cues which other children pick up automatically, have difficulty modulating behavior, and switching activities or settings is seldom done without incident. The more aware these children are that others react negatively to their behavior the more their self-esteem suffers. This may cause a lack of confidence in their ability to develop and maintain rewarding relationships.

## **Other Health Impaired**

According to IDEA 2004, *other health impaired* means 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 is due to chronic or acute health problems such as asthma, attention deficit disorder or attention deficit hyperactivity disorder...and adversely affects a child's educational performance. Therefore, children with ADHD may be considered disabled under Part B of IDEA solely on the basis of this disorder within the OHI category if there is also a demonstrated adverse effect on educational performance.

## **Speech/Language Impairment and Hearing Impairment**

According to IDEA 2004 a *speech or language impairment means a communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, that adversely affects a child's educational performance.*

The exact relationship between speech/language problems and ADHD is not known. Hearing impaired individuals exhibit many behaviors similar to those of children with ADHD, including the appearance of not listening to what is being said, difficulty following directions, etc. For this reason, when an attention deficit is suspected, it makes sense to check for auditory acuity to be certain that the child can hear normally.

Some children with ADHD exhibit language-processing impairments. The high co-morbidity between the two disorders has been well documented, with estimates ranging from 10-33% (Riccio, Hynd, Cohen, Hall, and Molt, 1994). Children with language processing problems often have related auditory processing difficulties, particularly in the ADHD population. Problems can be found in the areas of speed of processing, auditory memory, auditory attention, processing information/analysis and auditory discrimination. Following directions or getting information from reading and listening can be a nightmare for such children. Due to the important connection between language and learning, the speech and language pathologist should be part of the PPT addressing the needs of the children with ADHD. In addition, most children with ADHD do not use internal language to self-regulate or self-direct their thoughts and behavior (Barkley, 1997).

Often children with auditory processing disorder (APD) are first diagnosed with a label of ADHD. Later, an audiologist may render a diagnosis of APD. To audiologists, APD includes problems with one or more of the following auditory tasks (American Speech-Language-Hearing Association CAPD Task Force, 1996):

- Sound localization and lateralization
- Auditory discrimination
- Auditory pattern recognition
- Temporal aspects of audition (resolution, masking, integration, ordering)
- Auditory performance decrements with competing acoustic signals
- Auditory performance decrements with degraded acoustic signals

Determining a diagnosis of APD versus ADHD is not easy. Many children with APD have a history of hearing loss and/or recurrent ear infections. Such a history should signal the evaluator to look even more closely for signs of this disorder. Speech and language pathologists may screen for peripheral hearing loss and APD and conduct related speech/language evaluations in addition to audiologists completing an audiological evaluation.

## **Intellectual Disability (formerly Mental Retardation)**

Many features of ADHD may be present in children who have been diagnosed as having an intellectual disability. These children behave like much younger children by exhibiting higher

levels of inattention, impulsivity, and motor activity. In order to be considered as having ADHD, in addition to ID, however, the child's relevant symptoms must be excessive for his/her mental age.

American Speech-Language-Hearing Association Task Force on Central Auditory Processing Consensus Development. (1996). Current status of research and implications for clinical practice. *American Journal of Audiology*, 5 (2), 41-54.

Barkley, R.A. (1998). *Attention-deficit hyperactivity disorder: A Handbook for diagnosis and treatment (2<sup>nd</sup> ed.)* New York: Guilford Press.

Barkley, R.A. (1997). *ADHD and the nature of self-control*. New York: Guilford Press.

Department of Education (1999). *Individuals with Disabilities Education Act (IDEA)*. 34 CFR Parts 300 and 303.

Mayes, S.D., Calhoun, S.L., & Crowell, E.W. (2000). Learning Disabilities and ADD. *Journal of Learning Disabilities*, 33, 417-424.

Odom, S.L., McConnell, S.R., & Chandler, L.K. (1995). Acceptability and feasibility of classroom-based social interaction interventions for young children with disabilities. *Exceptional Children*, 60, 226-236.

Pliszka, S.R. (1998). Comorbidity of attention-deficit/hyperactivity disorder with psychiatric disorder: An overview. *Journal of Clinical Psychiatry*, 59(7), 50-58.

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Sonuga-Barke, E. (2002). Psychological heterogeneity in AD/HD: A dual pathway model of behavior and cognition. *Behavioral Brain Research*, 130, 29-36.

## VII Assessment and Identification

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The actual diagnostic label ADHD most commonly has been given by physicians (pediatricians, child psychiatrists, pediatric neurologists) and by licensed psychologists. Occasionally, parents will initiate the evaluation on their own. The typical route, however, is for school personnel to note a concern and, then recommend that the child be formally evaluated through the Planning and Placement Team process if the team suspects a disability that is adversely affecting educational performance.

There is inconsistency among professionals as to how and by whom the assessment for ADHD should be done. It is possible, however, to identify principles and procedures which, in most cases, *should* be followed in order to assure that the best diagnostic decisions are reached.

### ✓ **Conduct a comprehensive evaluation.**

ADHD is known to exist side-by-side with other conditions, such as learning and language problems, mood disorders, aggression and disruptive behaviors, depression, anxiety, etc. Professionals call this “co-morbidity.” As many as one-third of children diagnosed with ADHD also have a co-existing condition. Because of this, it is important that an evaluation be comprehensive enough to determine if any other disorders also exist. It is particularly important not to use tests that *only* look at ADHD features – so-called “narrow band” tests -- for these might miss other critical factors that would make the diagnosis more accurate.

### ✓ **Use multiple sources of information.**

In addition to evaluating the child directly by appropriate testing and careful observations, it is very important to get information from parents, teachers, and others in the child’s environment in order to achieve a multi-disciplinary, *collaborative* approach to insure that all points of view are represented (See Section IX).

### ✓ **Get information about the child’s functioning in different settings.**

For many years, it was assumed that if a child had ADHD, s/he would consistently exhibit ADHD symptoms and exhibit them equally in every situation. We now know this is not necessarily true. A child with ADHD may be able to sit quietly and watch an interesting TV show or attend intently to a video game or favorite activity for extended time periods. In undemanding task situations, a child with ADHD may also manage well.

*It is important to remember that the performance of a child with ADHD is usually closely related to the amount of structure present, the type of interaction required, the length and difficulty of the task, and the quality and quantity of reinforcement available.*

### ✓ **Assess all dimensions of ADHD.**

The syndrome includes significant problems with inattention, impulsivity/hyperactivity, or all three. An assessment for ADHD would be incomplete if it did not include an evaluation of all these components. (See Section VI for criteria.)

## ✓ **Obtain and review multiple types of data.**

Medical history and status, developmental/social history, cumulative educational records, interviews, careful observations, psycho-educational tests as needed, and checklists for the assessment of attention, impulsivity, and hyperactivity all contribute to a comprehensive evaluation for ADHD.

### **1. Interviews**

Most formal evaluations begin with obtaining a developmental and health history from the parents. Adjustment/achievement and social/emotional information should also be obtained from the child's teacher(s) and *from the child*. Teachers can indicate the severity of the problem in comparison to other children in the class, the situations under which the behaviors of concern seem relatively better or worse, and the extent to which the problem is interfering with academic productivity and social acceptability. The child can indicate what is hard and easy for him or her, and what s/he sees as the problem.

A number of structured interviews are commercially available.

### **2. Observations**

Observations of the child's behavior in the school or home environment can provide the most direct indications of the presence or absence of ADHD.

Interviews and rating scales are indirect, and may suffer from possible reporter biases. Tests given to the child are direct, but they usually take place in novel and quiet settings on a one-to-one basis, and typically involve tasks that are more interesting to the child being tested than s/he would ordinarily experience. *Therefore, tests may provide unreliable indications of how the child does in the "real world."*

Careful observations avoid these problems. Most formal observations are done in the school setting. However, when obtainable, home observations can be quite valuable. School observations should be done with careful thought as to the time of day and the type of activity (e.g., recess, lunch or playground vs. classroom, lecture vs. seatwork, group vs. individual work, math vs. reading vs. writing, and complex vs. simple tasks). Usually the teacher can suggest the best times for observation by targeting subject, activities, or periods when the child is most likely to exhibit the behaviors of concern. Videotapes can also provide invaluable information.

Observation techniques can vary from merely watching the child to using complex sampling procedures that have been developed for this purpose. In order to make the observation as efficient as possible, it is important to have it planned and organized. Target behaviors that can be observed and counted should be specified in advance.

For example, if attention is the focus, an independent seatwork activity time might be chosen. The observer could operationally define attention as "looking at the materials and appearing to be engaged."

### **3. Rating Scales**

Rating scales are quick, inexpensive, and can be used to obtain information from a variety of individuals who have observed the child in different contexts over extended time periods. Several have accumulated normative data for comparison purposes. Evidence regarding their reliability and validity is available, and frequently is quite impressive, compared to other types of assessment methods. For these reasons, rating scales often are administered at different points in time in order to evaluate the effects of various interventions (e.g., medication trials).

Informants for rating scales usually are parents or teachers. Parents can give essential information since they have observed their child's behavior in a variety of situations across an extended time frame. Teachers can provide useful observational data about the child's behavioral functioning in school compared to that of other children the same age and/or intellectual level.

There are many rating scales available and widely used for the assessment and treatment of ADHD. A sample of scales often used by medical, educational, and mental health professionals is listed in Appendix A. It is important to examine each scale to determine which one meets the child's specific needs. *Rating scales, however, should not be used as the sole assessment instrument for determining special education eligibility, or for diagnosing ADHD.* There is an emerging consensus that rating scales, in general, are more predictive of the hyperactivity feature of this disorder than of its other aspects.

### **4. Psychoeducational tests**

Tests given as part of routine psycho-educational evaluation procedures in schools and clinics may provide information that is useful in assessing ADHD. It would be beneficial to administer them as part of a more comprehensive evaluation to determine if a child with ADHD may have co-existing learning or other problems.

The Wechsler Intelligence Scales (there is one for children and one for adults) have subtests which contribute to a "freedom from distractibility factor." Likewise, the Kaufman Assessment Battery for Children, and the Stanford-Binet Intelligence Scale have short-term memory tasks that are sensitive to attention and concentration problems. The Cognitive Assessment System test has sections that measure planning and attention, two critical factors that are often affected by ADHD.

Unfortunately, low scores on these measures also may occur for other reasons. For example, anxiety can lower performance on these tasks, as can problems with retrieving information. Also, as noted earlier, auditory processing problems can interfere with functioning on items presented verbally.

The Woodcock Johnson Psycho-educational Battery and The Kaufman Tests of Educational Achievement assess functioning in multiple areas of academics. Tasks requiring assimilation, organization, and visual motor integration, such as reading comprehension, written expression, and mathematical calculations, also tend to be more sensitive to attention and concentration factors, and thus frequently reflect lower scores.

In summary, results from standard psycho-educational tests can be used to signal the possibility of ADHD-type problems, but their greatest value lies in helping to identify other conditions that may co-exist with ADHD, such as language, learning, and social/emotional problems.

## **5. Speech – Language Assessment**

Communication problems may manifest themselves by behaviors that resemble those seen in ADHD or may result from the ADHD. An assessment to sort this out should address all areas of comprehension and expression of nonverbal and verbal language. Oral and written language should be assessed, as either or both may be affected. Because difficulties with subtleties of language and social interaction and planning are often present in ADHD, higher order language skills (including use of language for self/social regulation) need to be addressed as well.

## **6. Continuous Performance Measures and Other Assessment Procedures**

Numerous tests have been developed that require a child to attend over a set period of time to a series of visual or auditory stimuli, such as connecting sequentially numbered dots or “balloons” or pressing a button when certain words or numbers are heard. It is believed that since the demand for sustained attention is very high in this type of test, a child with ADHD will perform poorly, and this would be a good indicator of the disorder. Unfortunately, this type of measure has not been able to reliably distinguish children with ADHD from others. Many children with significant ADHD do quite well on these tasks, although it is not clear why. At this time these measures should be suggestive, but not conclusive tools for the diagnosis of ADHD.

## **7. Assessment of Adults**

The assessment of adults who may have Attention Deficit Hyperactivity Disorder is relatively complex in regard to ruling out medical and/or co-morbid psychiatric conditions. The assessment typically involves documentation of functioning during childhood and completion of both retrospective and current rating scales. A complete medical evaluation is warranted to ensure that medical conditions such as thyroid problems, diabetes, heart related issues and other medical conditions are not producing symptoms that mimic ADHD symptoms. An approach to documenting early childhood symptoms may include parent interview, review of report cards, and completion of retrospective rating scales.

# VIII The School's Role in Assessment and Diagnosis

In the majority of cases, concerns about a child's attention and activity levels arise first in school. This occurs because school usually demands more sustained, focused attention than earlier settings. Sometimes, parents will express concern about these issues to school personnel before talking with their physician. How should the situation be handled from that point?

In Connecticut, the focus is on helping the child succeed in the general classroom. Given the complexities associated with ADHD, teacher(s), school psychologist, counselor, speech and language pathologist, and nurse should collaborate to develop instructional and behavioral strategies. The goal is to try to make sufficient accommodations and modifications in the general school environment so that children can progress appropriately. Accommodations are changes made to the teaching or testing procedures in order to provide a student with access to information and to create an equal opportunity to demonstrate knowledge and skills. Modifications are changes to what the student is expected to learn -- the curriculum.

## **An initial request for assistance**

Whether the initial request for assistance originates from the parents or from within the school, it is recommended that a district representative establish a two-way dialogue with the parents to form a collaborative, working alliance. Some considerations include:

1. Assure the parents that the intent of the process is to determine what difficulty the student is experiencing and the most appropriate manner to provide help/supports to their child;
2. Explore the parents' specific concerns and their attempts to help their child;
3. Request parental permission (in writing) to allow the school to collaborate with community based professionals who may already be working with the student (doctor, therapist, etc.);
4. Explain the differences that might exist when services are provided by instructional support/general education teams, as compared to services and procedural safeguards provided under Individual with Disabilities Education Act (IDEA) or Section 504 of the Rehabilitation Act of 1973;
5. Review the assessment process and explain the multiple-part eligibility standards (e.g., under IDEA -- category or diagnosis, adverse effect on educational performance, and benefit from special education and services); and,
6. Establish a point-person within the school through which the parents may maintain an open channel of communication.

When instructional support or general education teams are discussing the educational needs of a student, there are two main questions to address:

1. *Has the team established that the curriculum has been delivered on the student's instructional level regarding pace of instruction and complexity of material? For example, consider:*
  - a. Specific study skills taught to all students;
  - b. Computer technology readily available in classrooms for spontaneous use;
  - c. Out-of-class assistance for repeated practice or further explanation;
  - d. Re-teaching an integral part of lesson planning;
  - e. Small group, intensive instruction;
  - f. Frequent opportunities for hands-on learning.
  - g. Variations of instruction to match learning styles;
  - h. Alternative assessments of student work;
  - i. Environmental/classroom accommodations;
  - j. Cooperative learning;
  - k. Peer interaction supports;
  - l. Support services consultation;
  - m. Provided listening devices (e.g. noise canceling headphones, sound field amplification systems, personal fm units); ,and
  - n. Behavioral interventions that address antecedent conditions, skill instruction, and modification of consequences
2. *Have interventions recommended by the team been implemented, monitored, and fine-tuned (as necessary)?*

## **IDEA (Individuals with Disabilities Education Act)**

Sometimes the child's difficulties are beyond the scope of what general education can provide. In those cases, it is appropriate to refer the student to the Planning and Placement Team (PPT) for formal assessment of eligibility for special education under IDEA. According to IDEA 2004, the child's evaluation must be recommended by the PPT and conducted by a multidisciplinary team that includes as individual knowledgeable about ADHD.

If the PPT recommends a medical evaluation by a licensed physician, the school district must

ensure that such evaluation is conducted at no expense to the child's parents. However, the PPT may decide that other qualified personnel can be utilized to determine eligibility of a child with ADHD characteristics for special education services.

It is very important for school personnel to communicate and collaborate with the physician and any other qualified individuals involved with the child, especially in cases where some evaluation already has been done, so that the diagnosis, subsequent treatment, and educational planning is both integrated and comprehensive.

The PPT determines whether or not the child is eligible to receive special education and related services; that is, whether the child has a disability and whether the disability "adversely affects educational performance." Since there is no separate ADHD condition specified under IDEA (as there is for LD, visually impaired, etc.), the situation can be complicated, as many children with ADHD also will be found eligible for issues related to Learning Disabilities, Speech/Language Impairments, Emotional Disturbance, and Other Health Impaired.

As with other children found to have a disability that requires specially designed instruction, an Individualized Education Program (IEP) would then be developed to specify annual goals and objectives for intervention. A plan starts with the assumption that the student will receive services in the general education classroom and documents reasons when that is not possible. The IEP should include any necessary program accommodations, such as providing more time to take tests, social and/or organizational skills training, a behavior monitoring system, as well as modifications to the curriculum. The school staff member who is most appropriate for overseeing implementation of the IEP (the case manager) may be a professional other than a classroom teacher, especially if academic skill acquisition is not a problem for that particular child.

## **Section 504 of the Rehabilitation Act of 1973**

Some students, who are not eligible for special education and related services, may be eligible under Section 504 of the Rehabilitation Act of 1973. Section 504, a civil rights law, requires every recipient of federal financial assistance that operates a public elementary or secondary program to address the needs of children who are considered "disabled persons" under Section 504 as adequately as they address the needs of non-disabled persons.

A "disabled person" is defined in the regulation as any person who has a physical or mental impairment which "substantially limits a major life activity (like learning)" (34 CFR 104.3(j)). Thus, depending on the severity of their condition, a child with ADHD may qualify for assistance under the law.

The school district is responsible for conducting evaluations necessary to determine eligibility for services under Section 504 when it has reason to believe that the child may be eligible. If the school district declines to evaluate the student, it is required they notify the parents of their due process rights. Should it be determined that the child with ADHD is disabled for purposes of Section 504 and needs accommodations to the instructional process, those accommodations are required by Section 504 and should be documented in a written plan.

## **Free Appropriate Public Education (FAPE)**

Under both IDEA and Section 504, school districts must provide a free appropriate public education (FAPE) to each identified child. A free appropriate public education consists of general or special education services and related services designed to meet the individual student's needs.

Implementation of an individualized education program developed in accordance with IDEA, although not required, is one means of meeting the FAPE requirements of Section 504.

# IX Medical Interventions

## Pharmacotherapies

ADHD research has increased dramatically in the last few years and has answered many questions about the disorder and role of medications (pharmacotherapy) in its treatment, while it has raised others. The disorder has been found to have a very strong genetic component, for example, and recent advances have shed increasing light on its cause (Faraone and Doyle, 2001; Spencer, Biederman, Wilens, and Faraone, 2002).

In the 1930's, Bradley first reported the effectiveness of stimulant medication in improving the function of hyperactive children (Bradley, 1937). Because the stimulants appeared to “calm down” this rambunctious group of children, while they were thought to make “normal” children more active, the effects of stimulants were thought to be “paradoxical”. A number of studies, however, have shown that normal children and adults also respond to stimulant medication with improved attention and concentration.

Since Bradley's pioneering work, innumerable studies have shown stimulants to be effective and safe in the treatment of ADHD. Careful double blind studies have show stimulant medications to be effective in 75% to 85% of children diagnosed with ADHD (Spencer, 2004; Spencer, Biederman, and Wilens, 2000). Stimulants have been in use longer than almost all drugs in pediatrics and have established an exceptional record of safety and efficacy, when they are used appropriately. While they are sometimes abused, recent research suggests that their early and appropriate use in ADHD may reduce a child's risk of drug abuse later in life (Biederman, Wilens, Mick, Spencer, and Faraone, 1999). The use of stimulants remained controversial in some quarters, however, because most studies of stimulants were short term, failed to compare stimulant treatment to psychological, behavioral, and educational interventions and were conducted on fairly small groups of children or adolescents.

Recent well designed (randomized, double blind, placebo controlled) treatment studies have diminished substantially the controversy over the effectiveness of stimulant treatment of ADHD. The largest and best designed study, the National Institute of Mental Health Collaborative Multimodal Treatment Study of Children with ADHD (MTA) compared the effects of (a) stimulant treatment alone, (b) comprehensive behavioral treatment (parent training, child-focused therapy, and school-based interventions) alone, (c) combined therapy (“a” and “b”), and (d) community treatment (the treatment a child would ordinarily receive in his community) in a sample of more than 600 children (The MTA Cooperative Group, 1999a, 1999b) . The impact of interventions on symptoms, academics, and social functioning was carefully assessed.

The MTA study showed conclusively that stimulant treatment was highly effective and safe over the two-year period of the study. It substantially improved academic and social functioning across the board in those subjects with ADHD alone. Behavioral treatment alone was generally less effective than in this group although it helped insure superior outcome when it was combined with stimulant treatment<sup>7</sup>. In children with significant concomitant disruptive behavioral problems and/or significant concomitant anxiety, acceptable outcome required combined treatment (Arnold et al., 2004; Owens et al., 2003).

Research has shown ADHD to be a life-long disorder with different manifestations in different

developmental periods (Wilens, Biederman, and Spencer, 2002). In childhood, hyperactivity is marked. As puberty approaches, hyperactivity wanes and impulsivity becomes more problematic. At one point, stimulants were routinely stopped in adolescence, since their effectiveness in controlling impulsivity was not appreciated. Toward the end of adolescence, impulsivity often declines and the residual symptoms of inattention and distractibility may persist into adult life. In the past, the residual symptoms of ADHD were often missed and few adults received treatment. The recent recognition that such symptoms can impair performance and the quality of life in adults has led to many new treatment studies that show that stimulants maintain their effectiveness across the life span.

In addition to the core symptoms of inattention, impulsivity, and hyperactivity, ADHD affects self-esteem, school performance, social judgment, and personal relationships. Stimulants improve functioning across the board (Spenser, 2004). Stimulants should probably be used all the time (i.e. no stimulant holidays, as once advised) except in those rare cases where significant growth retardation occurs with their chronic use. About half of the children who meet the criteria for the diagnosis of ADHD have ADHD alone (so called “simple” ADHD), while the other half have other psychiatric syndromes, principally learning, speech and language, disruptive behavioral, and anxiety and mood disorders, as well (Spencer, Biederman, and Wilens, 1999). When one of these disorders is present at the same time as ADHD, it is said to be “co morbid” with the ADHD and the ADHD is said to be “complex”. Children who have some combination of ADHD and other psychiatric conditions are at much higher risk for school and social failure, drug abuse, and legal troubles. This “complex” or “co morbid” group requires special attention and more complex medical and behavioral intervention typically.

**Although appropriate treatment with medications has many positive effects, it does not resolve existing social skill deficits (e.g., poor interactive skills or negative behavior patterns), entrenched deficits in self-esteem, learning, speech or language difficulties, or problems at home. Every child with ADHD needs a comprehensive evaluation to permit the planning of comprehensive and effective treatment that addresses all relevant medical, educational, and psychosocial problems.**

While other medications have been found effective for ADHD in children, adolescent and adults with ADHD (see below), none have the established history of safety and effectiveness of the stimulants. Often the research that supports the use of these alternative medications is very limited or anecdotal. The use of these alternative medicines in “simple” ADHD with or in the place of stimulants is often controversial and they may be best used in those cases where stimulants are poorly tolerated, where they are not fully effective or where the risk of stimulant abuse is judged substantial. These medications may have a more important role in “complex” ADHD, where they may be used to treat the symptoms of several disorders at once or where they may be used to bring about a fuller response of symptoms than can be achieved by stimulants used alone. Several medications may be combined to fine tune the treatment and bring about the best possible outcome. In this situation, great care should be taken to monitor the positive effects of each medicine and its side effects.

The Food and Drug Administration (FDA) approves the use of a medication to treat a particular condition or disorder, when enough scientific research is available to establish the safety and effectiveness of the medication for that particular “indication”. The process of seeking FDA approval for a specific “indication” is expensive and laborious.

When an “off indication” use of a medication is considered, the use must be consistent with the principals of evidence-based medicine. The approach specifies that treatments for which good research evidence of safety and effectiveness is available be used first, and less established treatments only be used when better established ones have failed to provide desired results. Clear headed consideration of the cost and benefits of “off indication” uses of a medication and of the uses of unstudied or little studied combinations of medications (polypharmacy) is essential. The treating physician should be especially careful to explain to the patient and his family the rationale for the treatment. The risks and benefits of the treatment compared with those of FDA approved treatments must be stated. The hoped for therapeutic effects and the likely side effects must be detailed and methods to assess therapeutic response and side effects explained. Informed consent should be explicitly obtained of the patient or his family.

Before any psychologically active (psychotropic) medication is used in a child or adolescent, a physician must determine that the patient’s health permits it. Medical factors that might make the use of the medicine unwise or risky should be identified, as should factors that might interfere with the effectiveness of the medication. A medical history and complete physical examination should have been done recently. When appropriate, baseline laboratory studies should be obtained before starting the medication and thereafter as needed. Psychotropic medications should only be used as part of a comprehensive treatment plan.

*Under Chapter 169, Section 10-212b, each local and regional board of education shall adopt and implement policies prohibiting any school personnel from recommending the use of psychotropic drugs for any child. However, the provisions of this section shall not prohibit (A) school health or mental health personnel from recommending that a child be evaluated by an appropriate medical practitioner, (B) school personnel from consulting with such practitioner with the consent of the parents or guardian of such child, (C) the planning and placement team from recommending a medical evaluation as part of an initial evaluation or re-evaluation, as needed to determine a child’s eligibility (i) eligibility for special education and related services, or (ii) educational needs for an individualized education program. It is important to note that local school districts, under IDEA 2004, are only responsible for diagnostic medical evaluations that are recommended and agreed to by the district’s Planning and Placement Team (PPT).*

The psychotropic medications used in the treatment of ADHD are presented below. Because stimulants account for the majority of prescriptions written for ADHD, information about each will be presented in some detail below, as will information about Atomoxetine (Strattera), a non-stimulant newly approved for the treatment of ADHD. The presentation of other, unapproved medications sometimes used to treat ADHD will be briefer, since the considerations in their use are complex and somewhat technical.

## **The Stimulants**

Bradley was the first to use stimulants for ADHD, when he treated “hyperkinetic” children with the newly discovered Dextro-amphetamine (Dexedrine) in the 1930s. For some years, Dexedrine remained the mainstay of treatment of ADHD, known in earlier years as the “hyperkinetic syndrome of childhood” or “minimal brain dysfunction”. In the 70’s McNeil Laboratories introduced a new stimulant, Methylphenidate, under the Brand name Ritalin, as an alternative for the treatment of ADHD. By the 1980’s, Ritalin was the most commonly prescribed medication for ADHD, although studies repeatedly showed that Dexedrine and Ritalin were equally

effective in most children.

Currently, longer acting extended release preparations of Methylphenidate and Amphetamine are gradually supplanting Dexedrine, Ritalin, and Adderall, because they permit once daily dosing. Because preparations of Methylphenidate and Amphetamine generally are equally effective, the choice of a particular preparation should be based on individual response and the desired duration of action.

## **Methylphenidate**

Ritalin is the trade name for Methylphenidate Hydrochloride. It has been approved for the treatment of ADHD in children 6 years and older. Ritalin takes effect quickly, typically within 30 minutes, and remains effective for 3-4 hours. Ritalin is inconvenient to use in most children and adolescents, since several doses must be given over the course of the day to maintain its effect. The dose given around lunchtime to maintain the effect of the first, morning dose necessitates a visit to the school nurse, inconvenient for parents and school personnel and often a source of shame for the child. Many children require a third dose in the later afternoon to enable them to do homework or function adequately at sport, group or family activities then and in the early evening. Sometimes a smaller, “step down” dose, is given at this time to reduce the risk of “rebound” (the worsening of ADHD symptoms as a stimulant abruptly wears off).

A sustained release preparation of Ritalin (Ritalin-SR) has been available for some years. This formulation was designed to provide 6-8 hours of coverage to free the child from the lunchtime visit to the nurse. Clinical experience with this formulation has been disappointing, however. The release of the medicine over the course of the day has seemed variable in many children so that the medicine is not uniformly effective over the 6-8 hour course of the school day. Another 6-8 hour duration Methylphenidate preparation, Metadate-CR was introduced several years ago and it seems to work well.

Several new long acting preparations of Methylphenidate have become available over the last several years. Concerta lasts 12 hours and is able to treat the symptoms of ADHD for a child's entire day. A short acting form of Methylphenidate is first released from the surface of the Concerta capsule that is effective for the first 4 hours and an “osmotic pump” inside the capsule releases the remainder of the dose over the next 8 hours. Ritalin-LA and Metadate-ER, the newest extended release Methylphenidate preparations, last approximately 8 hours. They have “biphasic” release systems that mimic the pattern of the release of Methylphenidate into the blood that is seen when two doses of Ritalin are taken, e.g. at breakfast and lunch times. These newer preparations are highly effective and spare the child a visit to the nurse, as well.

## **Amphetamines**

### **Dextro-Amphetamine Sulfate “Dexedrine”**

The onset of action of Dexedrine and its generic equivalents is usually within 30 minutes after a dose is taken and the duration of action is 4-5 hours. A “spanule” preparation of Dexedrine is available that extends its duration of action for an additional hour or two. This extended time decreases the interruptions to the school day. Dexedrine is approved for use in children as young as 3.

## **Mixed Amphetamine Salts “Adderall”**

Adderall in its various formulations is the most widely prescribed stimulant, although the well-respected Medical Letter on Drugs and Therapeutics could find no evidence of superior effectiveness over other stimulant medications (Kratochvil, Heiligenstein, Dittmann, et al., 2002). The effects of Adderall and its recently available generic equivalents occur about 30 minutes after a dose is taken and last for 4-6 hours. A “biphasic release” Adderall preparation (Adderall XR) has recently been approved and it provides coverage for most of a day (10-12 hours).

## **Pemoline (Cylert)**

Cylert is another stimulant medication that has been used to treat children, adolescents, and adults with ADHD who did not respond to or could not take MPH or amphetamine. Although as effective as Methylphenidate or Amphetamine, its onset of action is quite delayed. It is seldom used these days, since rare cases of fatal, unpredictable liver failure have been reported.

## **What Are the Side Effects of the Stimulant Medications?**

The two most common side effects of stimulant medication are loss of appetite and trouble sleeping. Jitteriness, headache, and stomach upset are common, as well. While all medications have side effects those that the commonly used stimulants produce are generally mild and transient. The Physician must weigh the risks (side effects of the medications) against the benefits (effective treatment of a chronic, potentially disabling condition) of stimulant treatment and review these with the patient and/or his family, as would be the case with any other medical treatment.

## **FDA Approved Non-Stimulant Medications:**

### **Atomoxetine (Strattera)**

Strattera is non-stimulant, “selective norepinephrine re-uptake inhibitor” (SNRI) that the Food and Drug Administration (FDA) approved in 2002 for the treatment of ADHD in children 6 years and older, adolescents and, adults. In its Guidelines for the treatment of ADHD, the American Academy of Child and Adolescent Psychiatry has included Strattera as a first line treatment for ADHD. Strattera acts to increase the level of activity of norepinephrine, a brain chemical important in regulating many psychological and behavioral functions poorly regulated in ADHD. It is at least moderately effective and it may be taken once or twice daily to provide relief of ADHD symptoms over the course of the entire day. It is usually well tolerated, although generally mild side effects may occur. In children and adolescents, the most common side effects are upset stomach, decreased appetite, nausea or vomiting, dizziness, fatigue, and mood swings, and some children may experience a loss of weight when beginning Strattera. The most common side effects in adults are constipation, dry mouth, nausea, decreased appetite, problems sleeping, sexual side effects, problems urinating, and menstrual cramps. Rarely serious allergic

reactions to the drug can occur.

Another SNRI, Reboxetine (Edronax), although unavailable in the US, is approved in Canada and Europe for the treatment of depression and is often used there to treat anxiety disorders, as well. Strattera is also likely to have at least mild anti-depressant and anti-anxiety effects. Although these actions have not yet been well studied in Strattera, research to examine the effectiveness of Strattera in children with ADHD and internalizing disorders (anxiety and depression) is currently underway.

## **Medications Unapproved by the FDA**

The Food and Drug Administration (FDA) approves the use of a medication to treat a particular condition, when enough scientific research is available to establish the safety and effectiveness of the medication. Most of the medications discussed below have some research in support of their effectiveness in the treatment of ADHD, but supporting data comes often from a few, small studies.

### **Alpha-2 Auto-Receptor Agonists “Clonidine” and “Guanfacine”**

Clonidine (Catapres) and Guanfacine (Tenex) are drugs developed to treat high blood pressure. They are sometimes added to stimulant treatment to help control hyperactivity and aggression that have not responded adequately to stimulants alone. Sometimes they may be used as single agents, but they probably have less impact on attention and cognitive functioning than the stimulants.

### **Antidepressants**

Because many antidepressants affect the brain chemicals dopamine and norepinephrine that are thought to play a role in ADHD, their use in the treatment of ADHD has been studied to some degree. The second generation antidepressants Bupropion (Wellbutrin) and Venlafaxine (Effexor) and the tricyclic antidepressants Desipramine (Norpramin) and Nortriptyline (Pamelor) are perhaps the best studied. Real concern exists about the safety of Desipramine in children, but the other medications are safe and probably effective to some degree. Their use should probably be restricted to “co morbid” cases in which depression and/or anxiety complicate the presentation of ADHD. Wellbutrin, for example, is sometimes used to treat ADHD and depression, although no FDA indication has been sought for the treatment of ADHD.

### **Mood Stabilizers and Neuroleptics**

ADHD is often present (co morbid) with bipolar mood disorders, which can be worsened with treatment with stimulants and antidepressants. Second generation neuroleptics (Quetiapine (Seroquel), Aripiprazole (Abilify), Ziprasidone (Geodon), Risperidone (Risperdal), Olanzapine (Zyprexa), and Clozapine (Clozaril)) and mood stabilizers (Divalproex Sodium (Depakote), Carbamazepine (Tegretol), Oxcarbazepine (Trileptal), and Lithium, most commonly) are the mainstays of the treatment of bipolar disorder. Because these medications effectively treat bipolar disorder, stimulants can sometimes be used thereafter to treat the residual, often troubling ADHD symptoms. Anecdotal evidence, largely case reports and “clinical wisdom”, have suggested that these drugs may treat impulsivity, hyperactivity and even inattention in their own right.

Likewise, stimulants (and some antidepressants) may worsen tics (in Tourette's Disorder, for example). While this effect is usually reversible when the stimulant is stopped, the increase in tics may be quite noticeable to the child and to others, particularly his peers. The effects on self esteem and social competence may offset the positive effects of the stimulant intervention. Because neuroleptics (Pimozide (Orap), for example) have been used to control tics, they are sometimes used with stimulants to treat both conditions. The evidence in favor of this approach is very limited and a number of risks are associated with the use of the neuroleptics.

## **Drugs That Affect Brain Nicotine Systems**

Drugs that affect the Nicotine system in the brain are currently the focus of very active research. Some clinicians use the currently available acetylcholinesterase inhibitors (Donepezil (Aricept), rivastigmine (Exelon) and galantamine (Reminyl) to treat ADHD in those cases where stimulants and antidepressants fail or worsen other concurrent conditions, such as bipolar disorder. The evidence in favor of this approach is still very limited.

## **Other**

Other treatment approaches have been reported in the popular literature or in books and papers that have not undergone peer review for their scientific quality. Megavitamin and dietary treatments are popular examples. While some of these treatments may actually be effective, they are too often promoted by those unwilling to put them to the test of peer review, and their use may be very limited among experienced clinicians.

Current guidelines for evidence based medicine set forth by the Institute of Medicine should be helpful in choosing treatments (Havighurst, Hutt, McNeil, and Miller, 2001). The guidelines support the use first of treatments for which high quality scientific evidence exists. If these treatments fail, then trials of other treatments ranked by the assessment of the potential risks and benefits drawn from more limited evidence should be considered. The services of an experienced psychiatrist are recommended, when trials of second and third line treatments, for which evidence of effect is limited or significant risk is likely, are contemplated.

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# X School-Based Interventions

## Introduction

All students with ADHD are *not* the same. Each child has a unique pattern of strengths and weaknesses that must be considered in order to develop an appropriate academic program. Similarly, no child lives full-time in school; they have families and community environments with which they interact. To be responsive to students, schools and families must work together to share their knowledge and wisdom about the child. In the context of shared planning, the family and school are able to collaboratively construct and monitor instructional and home-based programs and strategies to consistently reinforce student learning and development.

Similarly, the student with ADHD does not exist in isolation in the classroom. Students interact with peers and share the teacher's attention as well. Consequently, providing for a student's academic needs is best accomplished in a manner that does not isolate and/or stigmatize the recipient of services. Pragmatically, this is accomplished by selecting a strategy that addresses student need and simultaneously enhances the learning of all students, not just the individual with ADHD.

While there are many strategies that have been found to help students, choosing the "right one" is best accomplished within a problem-solving method. The process encompasses:

- ❖ Define the desired outcome by assessing the students performance on academic tasks and in social interactions, and defining what you would like the outcome to be;
- ❖ assessing the goodness-of-fit between student learning level and style and teaching level and style;
- ❖ selecting a strategy; and
- ❖ monitoring student progress and modifying the intervention as necessary.

Working within the problem solving framework, it is important to consider what aspects of the learning process are potentially compromised for students with ADHD. As students perceive, receive, manipulate, store, and retrieve information, they activate three processing systems that are used in thinking: attention, executive function, and working memory. The "experts" like to debate whether these are three separate systems or if they are just one big system. For the purposes of this document, let us consider how these systems function and their effect on learning. Every student has a unique pattern of strengths and weaknesses in these thinking systems. Each of the systems is complexity sensitive: the more complex the task, the greater the demand on the system. Hence students will not experience academic difficulty until their specific system is overwhelmed.

**Attention** is called a "limited capacity system." It is just so big and, once full, it cannot hold anymore. Students use up their attention capacity much more frequently when doing tasks that are controlled or deliberate as distinct from tasks that are automatic (e.g., mastered addition and subtraction tables, skilled keyboarding). In addition, the natural tendency is to seek out whatever is novel, unique, or new in the environment. Attention is used in both behavior and thinking. Attention has four component parts:

1. Initiate or focus ("experts" use different terms for the same functions) – getting started on a task and/or establishing the scope or focus of the task.
2. Sustain -- the ability to willfully stay on task until completion even when there is something competing for attention.
3. Inhibit -- the ability to willfully block out whatever is not part of the focus or task or to delay acting upon it until a more appropriate time. Problems with this aspect contribute to calling out and risk taking behaviors.
4. Shift -- the ability to willfully change from one behavior, thought to another. This aspect contributes to difficulties with transitions; students' inability to "let go" of wrong answers, requests to fill their needs, or remaining upset once disciplined.

**Executive Functions** are operating all of the time and include controlled thinking, self-monitoring and self-evaluation, planning, sequencing, and organizing. Some experts suggest that the executive functions are like a conductor in an orchestra functioning to allocate resources (attention) and coordinate the connections between thinking and behavior. When students have compromised executive functions, they potentially lack the internal voice to guide thinking and behavior; remain unaware of how their behavior affects others; have difficulty beginning an assignment; produce written work that lacks organization, cohesion, main ideas/supporting details; omit steps in a multi-step process; misplace books, homework and supplies; have messy desks or lockers; or have difficulty checking work for mistakes. For most children, executive functions are the most compromised among the three systems. It is important to consider that academic and social demands on the executive functions increase with age as do the expectations for independence and self-sufficiency. Thus, teens are expected to perform increasing numbers of tasks that tax their executive functions at the very time that there are fewer supports provided.

**Working Memory** is the blackboard for thinking. It is a place to briefly store and manipulate information and also the mechanism to enter information into long term memory and retrieve it. Similar to attention, working memory is a limited capacity system. When we overload the system, some items are "forgotten." It is believed that working memory has at least two components

1. Phonological loop -- stores language based information. This portion is predominantly utilized in the typical classroom.
2. Visuospatial sketchpad -- stores image and/or location based information. There is some research that suggests this is preferred storage device for students with ADHD.

In addition to "forgetting," there are other behavioral indicators that the short term memory system has been overwhelmed. Students may make mistakes copying work from the blackboard; have difficulty remembering multiple part directions; show inconsistency in demonstrating acquired knowledge (e.g., one day he knows it the next day he doesn't; or the student learns or recalls only a portion of the lesson). Working memory weaknesses also contribute to poor reading comprehension, especially with long, complex sentence construction or in cases of poor fluency.

### **Thinking Systems and Strategies**

Too frequently strategies are chosen from a list of general recommendations – a "one size fits all" approach. However, given the unique skills, strengths, and weaknesses of each child, it is more advisable to employ a problem solving approach in selecting a strategy specific to the

student's needs. In this section, modifications to the environment and instruction will be considered as they relate to the potential compromises to learning. Following this discussion is a table that organizes the material based on the "problem behavior."

There are two caveats for the reader. The organization of intervention strategies is somewhat arbitrary and some may fit into multiple areas. For example, it was noted above that professionals disagree on the number of thinking systems. A second warning is that the listing of interventions is not totally complete. Rather, selected examples are included with the hope that educators and families will use them to develop additional strategies through a creative, collaborative, problem-solving effort.

## **Environment**

The environment is concerned with the physical set-up of the classroom and how it affects learning and social adjustment. The environment that has been found to be most supportive to the needs of students with ADHD is both structured and predictable. For example, it is helpful when the classroom has a consistent daily schedule and established routines for accomplishing work. Furthermore, all students benefit from environments that have universal programs to support positive behavior and social skills development. This may include specific physical space and activities to which a student might voluntarily "escape" to regain self-control. However, there remain a small percentage of students for whom targeted interventions will be necessary.

The following section details how specific interventions in the environment can interact with each of the three thinking systems:

- **Attention** – increases the likelihood that student will focus (by providing preferred seating with consideration for noise, movement, positive peer role models, and proximity to the teacher); structure the task to highlight the most important aspects; provide opportunities for novel repetition; schedule frequent breaks; allow opportunities to move around the classroom; use non-verbal cues (return to task, transitions, where to focus).
- **Executive Function** – provide external organizers (calendars, timers); segment multi-step tasks into smaller units; provide "low-tech" aids to minimize energy expended on lower level tasks to maximize higher level learning (computers, tape recorders, calculators).
- **Working Memory** – post rules, assignments, schedules; employ visualization techniques and graphic organizers (maps, task organizers, thinking process organizers); practice basic facts to level of automaticity (recall the need for novelty during repetition).

## **Curriculum / Instruction**

The curriculum is the body of knowledge or concepts which direct educational goals and objectives. The curriculum may be covered through a variety of instructional techniques, devices, and activities. Currently, "best practice" suggests that educators differentiate instruction to accommodate the different learning styles and individual patterns of strengths and weaknesses of all students. Similarly, to determine student mastery of the curriculum, one must provide multiple forms of assessment (e.g., portfolios, verbal discussion, dictated short essay responses, multiple-choice questions). Furthermore, students learn best when the lessons are engaging and

provide frequent feedback. For example, whole group instruction that requires active responses will engage all of the students (slates, partner talks, holding up shapes, writing on the board). These universal approaches to teaching will meet the needs of many of the students with ADHD. However, sometimes it is necessary to develop targeted accommodations and modifications to instruction for some students with ADHD.

The following section details how curriculum and instruction interact with each of the three thinking systems:

- **Attention** – get student’s attention before giving directions; keep directions clear and precise; check for student’s understanding of assignment; actively engage the student by providing work at the appropriate academic level relative to the task (instructional vs. independent levels); allow for student choice to accommodate interests; introduce novelty and provide opportunities for novel repetition; provide on-going feedback; pair visual and auditory instructional techniques; use cues – both visual and auditory;
- **Executive Function** – provide direct instruction in self-monitoring, self-coaching, and self-regulating strategies; provide external, visual organizers to support student focus on learning content; provide direct instruction in organizational, study, and time-management skills; sub-divide large tasks into smaller components and assign them two or three at a time; plan the schedule to allow for more demanding academic work in the morning; use color coding for organization (e.g., English book covers, folders, and materials are green).
- **Working Memory** – Sub-divide study time into smaller segments; provide context for learning and links to prior knowledge; utilize multi-sensory instruction; “chunk” information; make learning fun – provide games and activities with high interest and participation; provide learning aids (outlines); highlight key points using color, size, shape for instruction and study.

The preceding discussion organized strategies according to the location of application, the physical environment or instruction. Utilizing a problem solving approach, educators begin by identify the specific target behavior. In Table 1, the behavior is linked to specific thinking systems and a few representative interventions are listed. Experience suggests that once the link is established between behavior and a thinking system, classroom teachers will draw upon their own extensive repertoire of interventions to address student challenges.

**Table 1 Problem Behaviors, Thinking Systems, and Instructional Strategies**

Problem Behaviors	Thinking system	Instructional Strategies
<p><b>Difficulty Getting Started</b> - slow/unable to begin a new task, activity, assignment</p>	<p>Executive Function</p>	<ul style="list-style-type: none"> <li>• provide written and oral directions;</li> <li>• check that directions are clear;</li> <li>• begin work with mentor;</li> <li>• segment the work into small initial steps;</li> <li>• fold student's paper in halves, quarters, accordion patterns and ask them to work on just the first space</li> </ul>
<p><b>Disorganized</b> - poor time management skills; inability to plan ahead; difficulty with sequencing; messy desk/locker; failure to turn-in work although it is complete; misplaces books/materials; written work appears messy and lacks coherence</p>	<p>Executive Function</p>	<ul style="list-style-type: none"> <li>• external organizers (calendars, watch with alarm);</li> <li>• instructional chart with sequence of steps articulated;</li> <li>• instruction chart posted desk top on index cards or stickies;</li> <li>• daily schedule, routines, rituals;</li> <li>• study buddy;</li> <li>• assistive listening devices;</li> <li>• keyboarding instruction and computer;</li> </ul>
<p><b>Distractible</b> - not responding when called upon; poor task completion; difficulty distinguishing important information/ main idea from less important; skipping from one activity to the next</p>	<p>Attention</p>	<ul style="list-style-type: none"> <li>• preferential seating;</li> <li>• instruction on appropriate academic level;</li> <li>• assignments that are highly engaging;</li> <li>• hands-on learning, based on interests and strength;</li> <li>• reducing the number of items per assignment;</li> <li>• alternating response modes;</li> <li>• permitting students to work problems in an unusual order (bottom to top);</li> <li>• using external non-verbal cues to prompt student to return to task;</li> <li>• increasing the amount of immediate feedback (e.g., circulate during independent work and correct some of each student's work to provide immediate feedback);</li> <li>• using cooperative learning after the strategies have been taught to whole class;</li> </ul>

<p><b>Hyperactive</b> - difficulty staying in chair; high level of gross-motor activity (younger children); restlessness (adolescents); seeks sensory stimulation (chewing, tapping, leg swinging);</p>	<p>Attention Executive Function</p>	<ul style="list-style-type: none"> <li>• providing acceptable opportunities for movement rather than attempting to restrict activity;</li> <li>• providing a specific number of walking passes (e.g., sharpening pencil, drinks of water, access to books, wall charts);</li> <li>• providing small manipulables to channel activity from gross to fine motor (e.g., clay, stress balls);</li> <li>• establishing work centers as opportunity to move to choice activity;</li> <li>• standing random-drills;</li> <li>• restating rules before the opportunity for rule infraction;</li> <li>• increasing proprioceptive feedback (consult with OT or PT);</li> <li>• instructional strategies that use tactile materials</li> </ul>
<p><b>Impulsive</b> - shouts out answers without being called upon; exhibits risk taking behaviors; does not think about consequences of behavior; difficulty following rules; difficulty taking turns;</p>	<p>Executive Function</p>	<ul style="list-style-type: none"> <li>• teaching self-monitoring skills;</li> <li>• teaching self-regulating skills;</li> <li>• teaching the behavior you want to see;</li> <li>• giving positive feedback 5 to 8 times more frequently than negative ones;</li> <li>• teaching student verbal or motor response to use while waiting (e.g., holding up a "HELP" card, writing note to self so he will remember)</li> </ul>
<p><b>Memory</b> - inconsistent and/ or poor recall of previously learned information; reduced reading comprehension with long and/or complex sentences; forgetting assignments, social commitments,</p>	<p>Working Memory Attention</p>	<ul style="list-style-type: none"> <li>• segment study time into smaller units; structured breaks; alternating subject matter</li> <li>• multi-sensory instruction;</li> <li>• establish lesson context and links to prior knowledge;</li> <li>• highlight most important features (color coding, shapes, size emphasis);</li> <li>• provide opportunity for novel repetitions until student achieves automaticity of basic skills/facts</li> </ul>

<p><b>Self-Monitoring and Evaluation</b> - lacks "internal voice, " the internal dialogue to self-coach and/or guide thinking and behavior; unaware that his/her behavior is inappropriate, annoying to others; difficulty checking work once completed;</p>	<p>Executive Function</p>	<ul style="list-style-type: none"> <li>• role model by thinking out loud;</li> <li>• provide non-judgmental feedback to establish sequence and causality of events;</li> <li>• provide rubric on desktop for correcting work and provide structured practice in using it</li> </ul>
<p><b>Transition</b> - difficulty transitioning between activities, subjects, classes; repeats same idea, question after receiving a response; repeats same error even when told it is incorrect</p>	<p>Attention</p>	<ul style="list-style-type: none"> <li>• provide three-part transition cues (stopping, moving to, and starting);</li> <li>• develop transition rituals;</li> <li>• create transition songs, games, activities (primary grades)</li> </ul>

# XI Parent and Family Issues

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Raising children can be a fulfilling experience for parents. It can also be a trying, humbling one, even in the best of situations. Raising a child with ADHD can cause considerable marital, family, and sibling stress as everyone is forced to deal with the child's intense, quickly changing highs and lows.

Parents of children with ADHD must provide more structure, supervision, and intervention than is normally required and have much more intensive interaction with the school, neighbors, coaches/outside of school instructors, family, and friends because of the child's ADHD.

At home, the child's room typically is more messy and disorganized than the average child's room. Many ADHD children suffer from sleep deprivation. Getting dressed and ready for school often requires direct help from the parent. Mealtimes can be disastrous, and family outings may suddenly turn into embarrassing fiascos. Peer interactions must be monitored, and sometimes contrived. Homework frequently is not completed without intensive supervision or help.

Yet, with all these difficulties, the child with ADHD looks "normal," is intelligent, and may even be "gifted." S/he may work well for several days and then be unable to complete work. S/he may understand and work hard on difficult material when interested, then be unable to complete work s/he perceives as less "fun" or too difficult. This confusing fluctuation of strengths and weaknesses with inconsistent effort and motivation makes it harder for parents, teachers, and other professionals to accept these children's typically unpredictable, inconsistent behavior and academic performance.

For many parents, having a clear and definite diagnosis is the first step toward learning to cope with the difficulties of ADHD. It is important that parents, siblings and extended family members *and the child* be given as much accurate information about the disorder as possible, since all will benefit greatly from reading about ADHD and learning how others have dealt with it effectively. Knowledgeable physicians, therapists, and school personnel can be valuable resources to parents in this respect, if they will make material available.

It is important, also, that families be viewed as partners and experts about their children. Open and frequent communication with teachers and others involved in the child's life is essential. The child needs to know that the adults upon whom s/he depends are communicating and cooperating with each other.

Often parents, the child with ADHD, and other family members can benefit from educational counseling about the condition. Therapy with qualified professionals who understand ADHD can help resolve child management issues and provide support, while teaching strategies to parents, siblings and the child, since normal life problems and passages may be greatly exacerbated by the demands of the child or adult with ADHD.

Many parents have found that sports are a good outlet for the child with ADHD. It should be remembered, however, that these children may have trouble with sports like baseball which are highly rule-governed and require concentration even when no overt action is occurring. In general, sports like soccer, track, karate, skiing or swimming are usually better choices because of their constant action and more "free form" nature.

Parents of children with ADHD have found that support groups can be very helpful. Since parents may not know who else is in a similar situation, school personnel or other professionals may need to serve some initial coordinating functions to help get such groups started, or direct parents to already established support groups (See Appendix C).

Parents of children with ADHD who support and encourage collaboration among home, school, physician, and other professionals usually find that this process makes all the difference in their child's ongoing and eventual success. Beyond education for the ADHD child and their family members, teaching self-advocacy is the key for success.

In his book, *Taking Charge of ADHD*, Russell Barkley lists 10 Guiding Principles for parents in raising a child with ADHD:

1. Give your child more immediate feedback and consequences.
2. Give your child more frequent feedback
3. Use larger and more powerful consequences
4. Use incentives before punishment
5. Strive for consistency
6. Act, Don't Yak!
7. Plan ahead for problem situations
8. Keep a disability perspective
9. Don't personalize your child's problem or disorder
10. Practice forgiveness.

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## XII Transition Planning

Transition planning is required by Federal and CT State law for all students with disabilities including those with ADHD who qualify for services under IDEA (the Individual with Disabilities Education Act). At the annual review following the student's 15<sup>th</sup> birthday, the IEP must include measurable goals in the areas of post-secondary education and/or employment, independent living skills, and community participation. As the student gets older, s/he should work on these transition goals in the community as well as in the classroom.

Transition planning guides students in their exploration of the world of employment, post secondary training, independent living and participation in the community. It provides an opportunity to develop a vision for the future.

Transition planning helps teach students how to move from parent advocacy to self-advocacy. Strengths, weaknesses, interests and aptitudes are identified and used to develop IEP goals to help ensure success after high school.

The CT State Transition Task Force has developed a comprehensive manual called "Building a Bridge." It helps students and their parents to learn about transition planning and details the specific areas that need to be addressed. It walks the student through the necessary questions and concerns to be addressed at this stage of their educational career. The manual also contains information about the federal and state mandates regarding transition planning.

Copies of "Building a Bridge" may be downloaded from the Department of Education, Bureau of Special Education website under publications (available in both English and Spanish). It is also available at the Special Education Resource Center website at [www.ctserg.org](http://www.ctserg.org). Click on SERC Initiative, click on Transition Initiative.

# XIII Adults and Attention Deficit Hyperactivity Disorder

Many adults with ADHD are not diagnosed until adulthood. As they learn about their child's disorder, these adults begin to recognize the similarities between their lifelong behavior and that of their child.

Adults with undiagnosed ADHD often suffer from feelings of low self-esteem and self-worth. They have a history of academic, financial, career and interpersonal failures. Many are distractible, impulsive, disorganized, have difficulty with time management skills and numerous traffic violations. Self-medication with drugs and alcohol is very common.

A childhood history is part of evaluating an adult. This should include taking a history of drug and alcohol use, high-risk behavior, academic achievement and interpersonal relationships. (Refer to Wender, Murphy, Hallowell & Ratey, and Quinn's *Adult Inventory for Diagnosis*.)

A complete medical evaluation is warranted to ensure that medical conditions such as thyroid problems, diabetes, heart related issues and other medical conditions are not producing symptoms that mimic ADHD symptoms.

Until recently, few females were being correctly diagnosed with an attention deficit. Women are less likely to be hyperactive and are less oppositional and less aggressive than men. If no other condition exists such as a learning disability, it is often difficult to make an accurate diagnosis.

Women with ADHD frequently also suffer from depression or anxiety and feel incompetent. Managing a marriage, children, a household and possibly a career can be overwhelming. Patricia Quinn, M.D. and Kathleen Nadeau, Ph.D., two experts in the area of women and girls with attention problems, believe there is a need for new diagnostic criteria for identifying adults, especially women. They are promoting the need to focus more on cognitive issues such as executive functioning in making a diagnosis.

Adults who are newly diagnosed with ADHD need to understand that this disorder will affect them across their life span and that although it will not go away, it can be managed.

Once diagnosed, most adults feel a sense of relief and they often become more optimistic. With appropriate medication, counseling, and learned strategies, including coaching, many adults with ADHD can be – and are – highly successful.

## XIV Other Interventions

There are many different types of therapies offered to ADHD children and their families. Most are not evidence-based research methods. It is important to work with a professional knowledgeable in the practice of ADHD.

Presently, art therapy social skills training groups are being researched at two universities to more clearly understand the impact of the use of art therapy to enhance the learning of social skills. Biofeedback and/or neuro-feedback are being researched within the state of CT at two different school sites to more clearly understand the efficacy of this approach in enhancing the ability to focus.

Other alternative therapies that are available, but have not undergone any research protocol are the use of vitamins, minerals, special diets, supplements, auditory and visual therapy, spinal manipulation and music therapy.

The task force does not endorse any of the alternative therapies.

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## XV Summary

Attention Deficit Hyperactivity Disorder (ADHD) is a condition that affects 3% to 5% of the school population (Center for Disease Control [CDC], 2002). Characteristics of the disorder include age-inappropriate levels of motor activity, impulsivity, inattention, or all three.

Differential diagnosis is difficult since other physical, social, and psychological conditions share characteristics with ADHD, including hearing and auditory processing deficits, speech and language impairments, drug abuse, anxiety, depression, and high levels of motor activity, impulsivity, and/or inattention.

ADHD is not a separate disabling condition under current special education law, but some children with learning disabilities, emotional disturbance, or other disabilities may also have co-existing ADHD. If ADHD, however, is the only disabling condition and adversely affects educational performance, the child may be considered for special education services under the category "Other Health Impaired" if s/he meets the specific criteria for eligibility in this category.

Appropriate assessment should be multidisciplinary in nature, with information gathered from multiple sources (parents, teachers, pupil services personnel, physicians, observations of daily school performance, report cards). Behavior should be assessed in different settings, at different times of the day, looking at all components of the condition (inattention and/or hyperactivity/impulsivity) and using different types of assessment procedures (interviews, observations, behavior rating scales, and standard educational, language, cognitive and/or psychological testing, if appropriate).

If a child has already been diagnosed with ADHD, or has significant problems with attention, activity level, impulse control (or all three) at school, it is appropriate for the Planning and Placement Team (PPT) to become involved. The PPT can coordinate information-gathering and preliminary interventions, and can determine whether or not further evaluation is appropriate. Children with ADHD who have been determined to be disabled under IDEA or Section 504 should have an IEP or written plan specifying instructional and behavioral accommodations and/or strategies.

Interventions for children with ADHD may include medication. However, medication alone is not sufficient to address the problems associated with the disorder.

Before parents decide on an intervention for the child, they should research both pros and cons and involve the child, when appropriate, in the decision.

In school, teachers may need to make a variety of accommodations in the regular instructional program in order for the child with ADHD to achieve academic success. Behavior management approaches and eliminating as many distractions as possible in the classroom may be helpful in some cases, as can group instruction in social skills.

Families of children with ADHD typically experience considerable stress as they attempt to cope with their child's behavior. School personnel can help by collecting, then sharing, useful materials about the disorder with the parents. They can also encourage parents with similarly affected children to interact, share ideas, or join ADHD support groups.

Children with ADHD are often bright, enthusiastic, creative individuals. With early diagnosis,

understanding, treatment, and management, they can be helped to realize their potential and make valuable contributions to society. The successful social and academic education of the child with ADHD, however, cannot be left to chance. It requires long-term cooperation and collaboration among family members, educators, physicians, and other professionals.

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## Appendix A

### **FREQUENTLY USED ADHD RATING SCALES**

ADD-H Comprehensive Teacher Rating Scale Revised (ACTeRS)  
(Ullman, Slator and Sprague 1991)

Behavior Assessment System for Children (BASC)  
(Reynolds and Kamphaus 1994)

Brown Attention Deficit Disorder Evaluation Scales (BADDES)  
(Brown 1996)

ADHD Rating Scales Home and School Versions  
(Dupaul et al 1998)

Connors Parent and Teacher Rating Scales II  
(Connors 2000)

Child Behavior Checklist (CBCL)  
Teacher, Parent, Youth Self Report Form  
(Achenbach and Edelbrock 2001)

## **FREQUENTLY USED RATING SCALES IN ADULT ASSESSMENTS**

ADHD Behavior Checklist For Adults  
(Barkley and Associates 1996)

Wender Utah Rating Scale  
(Wender et.al. 1993)

Developmental History Questionnaire  
(Various)

Symptom Checklist – 90  
(Derogatis, 1986)

Employment History Questionnaire  
(Various)

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\*Most of these materials are available through ADD Warehouse (800-233-9273) or CACLD (203-838-5010).

## **PARENTS AND PROFESSIONALS BIBLIOGRAPHY**

*About Attention-Deficit/Hyperactivity Disorder*: Channing L. Bete Co., Inc.; South Deerfield, MA; 1991.

Adkins, Lynne and Cady, Janis: *Help! This Kid's Driving Me Crazy!*; Pro-Ed, Austin, TX; 1986; The young child with Attention Deficit Disorder. Lots of ideas in a few pages.

- Anderson, Winifred, Chitwood, Stephen, and Hayden, Deidre: *Negotiating the Special Education Maze: A Guide for Parents and Teachers*; Woodbine House, Inc., Bethesda, MD; 1997.
- Armstrong, Thomas, Ph.D.: *The Myth of the ADD Child*; Dutton, NY; 1995.
- Barkley, Russell, Ph.D.: *ADHD and the Nature of Self-Control*; The Guilford Press, New York; 1997.
- Clark, Lynn, Ph.D.: *SOS! Help For Parents-A Practical Guide for Handling Common Everyday Behavior Problems*; Parent Press, Bowling Green, KY; 1985.
- Copeland, Edna D., Ph.D., and Love, Valerie, M.Ed.: *Attention, Please! A Comprehensive Guide for Successfully Parenting Children with Attention Disorders and Hyperactivity*; SPI Press, Atlanta, GA, 1991.
- Diller, Lawrence H., M.D.: *Running on Ritalin: A Physician Reflects on Children, Society, and Performance in a Pill*; Bantam Books, N.Y.; 1998.
- Fowler, Mary Cahill: *Maybe You Know My Kid: A Parents' Guide to Identifying, Understanding and Helping Your Child with Attention Deficit Hyperactivity Disorder*; Carol Publishing Co., NJ; 1990. A mother's story of her son's struggle with ADHD from birth to adulthood; input from other parents and professionals.
- Frank, Kim "Tip", Ed.S., L.P.C., and Smith-Rex, Susan J., Ed.D.: *ADHD: 102 Practical Strategies for "Reducing the Deficit"*; YouthLight Inc., Chapin, SC; 1996.
- Garber, S., Ph.D. and Garber, M., Ph.D.: *If Your Child Is Hyperactive, Inattentive, Impulsive, Distractible*; Villard Books, NY, 1990. Comprehensive, detailed outline of specific management techniques for use by parents and/or teachers.
- Goldstein, Sam, Ph.D., and Goldstein, Michael, M.D.: *Why Won't My Child Pay Attention? A Complete Guide To ADD for parents, teachers and community agencies*; Wiley & Sons, Inc., NY; 1990. Comprehensive, written in layman's language.
- Hallowell, Edward M., M.D., and Ratey, John J., M.D.: *Answers to Distraction*; Pantheon Books, NY; 1994. Question-and-answer format responding to the most frequently-asked questions about ADD.
- Hallowell, Edward M., M.D., and Ratey, John J., M.D.: *Driven to Distraction: Recognizing and Coping with ADD From Childhood through Adulthood*; Pantheon Books, NY; 1994.
- Hallowell, Edward M. M.D. and Ratey, John, M.D.: *Delivered from Distraction*; Ballantine Books, NY, 2005.
- Honos-Webb, Lara: *The Gift of ADHD*; New Harbinger Publications Inc., Oakland, CA, 2005.
- Hughes, Susan: *Ryan: A Mother's Story about her Attention Deficit Disorder/Tourette's Syndrome Child*; Hope Press, Box 188, Duarte, CA; 1990. Emotionally helpful, upbeat despite child's severe problems.

Ingersoll, Barbara, Ph.D. and Goldstein, Sam, Ph.D.: *Attention Deficit Disorder and Learning Disabilities—Realities, Myths and Controversial Treatments*; Doubleday, NY; 1993. Controlled studies are explained and current controversial treatments are reviewed.

Kelly, Kate, and Ramundo, Peggy: *You Mean I'm Not Lazy,, Stupid or Crazy*; Tyrell & Jerem Press; Cincinnati, OH; 1993. Both authors have ADHD; provide informative, realistic insight into their world and share helpful coping strategies.

Kolberg, Judith, and Nadeau, Kathleen Ph.D. *ADD-Friendly Ways to Organize Your Life*. Brunner-Routledge, NY; 2002. Written for adults with attention deficits, but many of the strategies could be adapted for children.

Kranowitz, Carol Stock, M.A.: *The Out-of-Sync Child*; Penguin Putnam Inc., New York, NY; 1998. Subject is sensory integration.

Latham, Peter S, J.D., and Latham, Patricia H., J.D.: *Attention Deficit Disorder and the Law-A Guide for Advocates*; JKL Communications, Washington, D.C.; 1992.

Nadeau, Kathleen G., Ph.D., Dixon, Ellen B., Ph.D., and Biggs, Susan H. Ed.D.: *School Strategies for ADD Teens: Guidelines for schools, parents, students, Grades 6-12*; Chesapeake Psychological Publications; 1993. Practical, useful information.

Nadeau, Kathleen G., Ph.D., Littman, Ellen B., Ph.D., and Quinn, Patricia O., M.D.: *Understanding Girls with AD/HD*; Advantage Books, Silver Spring, MD; 1999.

Parker, Harvey C., Ph.D.: *Put Yourself in Their Shoes: Understanding Teenagers with Attention Deficit Hyperactivity Disorder*; Specialty Press, Inc., Plantation, Florida; 1999.

Phelan, Thomas W., Ph.D.: *1-2-3 MAGIC-Training Your Children To Do what You Want!* Child Management, Inc., Glen Ellyn, ILL; 1995. Discipline techniques for Children 2 to 12 years old.

Quinn, Patricia O., M.D.: *Attention Deficit Disorder: Diagnosis and Treatment from Infancy to Adulthood*; Brunner/Mazel, New York; 1997.

\*Many of these books are available through ADD Warehouse (800-233-9273) or CACLD (203-838-5010).

## **BOOKS ABOUT ADHD FOR CHILDREN AND TEENS**

It's helpful for the teacher or parents to review one or more of the books below before sharing them with children with ADHD (or with their friends and relatives). This review should be followed by reading and discussing the information with the child or others.

Aust, Patricia H.: *Hyper Harry*; New Concepts, Lake park, GA; 2001. Ted is twelve. His brother

Harry is eight and always in trouble. Ted's journal helps the adolescent reader learn about ADHD and how this sibling plays a key role in getting help for Harry.

Bauer, Keith E., Ph.D.: *Active Andy: An Elementary School Child's Guide to Understanding ADHD*; IMDW Publications, Wauwatosa, Wisconsin; 1993. Poor Andy! He tells us about so many problems at home and school. Thankfully he's diagnosed with ADHD and gets help.

Caffrey, Andras Jaye: *First Star I See*; Verbal Images Press, Fairport, New York; 1997. A suspenseful story about a fourth grade girl with ADHD Inattentive Type. She struggles to win a school writing contest. Boys as well as girls will enjoy this fast moving book.

Frank, Kim "Tip", and Smith, Susan J.: *Getting a Grip on ADD: A Kid's Guide to Understanding and Coping with Attention Disorders*; Educational Media Corporation, Minneapolis, MN; 1994. Appropriate for elementary and middle school students.

Galbraith, Judy, M.A., and Delisle, Jim, Ph.D.: *The Gifted Kids' Survival Guide: A Teen Handbook*; Free Spirit Publishing Inc., Minneapolis, MN; 1996. Text's focus is not on attention deficit but contains basic information applicable to any gifted teenager.

Galvin, Matthew, M.D.: *Otto Learns About His Medicine: A Story About Medication for Hyperactive Children*; Magination Press (Brunner/Mazel, Inc.), NY; 1988. Ages 4-8.

Gehret, Jeanne, M.A.: *Eagle Eyes: A Child's View of Attention Deficit Disorder*; Verbal Images Press, NY; 1991. Ages 7-11. Clear presentation.

Gehert, Jeanne, M.A.: *I'm Somebody Too!*; Verbal Images Press, NY; 1992. For middle-grade to young adolescent siblings of children with ADHD.

Gehret, Jeanne, M. A.: *Learning Disabilities and The Don 't-Give-Up-Kid*; Verbal Images Press, NY; 1990. Children 5-9. Covers LD and ADHD; Well-written.

Gordon, Michael, Ph.D.: *I Would If I Could*; GSI Publications, NY; 1993. For adolescents. Appropriate for middle and high school students.

Gordon, Michael, Ph.D.: *Jumpin' Johnny Get Back To Work!*; GSI Publications, New York; 1991. Children 7-11. ADHD message is clear.

Gordon, Michael, Ph.D.: *My Brother's A World-C/ass Pain: A Sibling's Guide to ADHD*; GSI Publications, NY; 1991.

Griffith, Joe: *How Dyslexic Benny Became a Star: A Story of Hope for Dyslexic Children and Their Parents*; Yorktown Press, Dallas, Texas; 1998. A fifth grade boy with dyslexia joins the school football team.

Levine, Mel, M.D.: *Keeping A Head In School*; Educators Publishing Services, Inc., Cambridge, MA; 1990. Ages 10-16. This book contains upbeat, practical help for young people and an excellent explanation of brain function. Also helpful for parents and/or professionals.

Levine, Mel, M.D.: *All Kinds of Minds*; Educators Publishing Services, Inc., Cambridge, MA; 1992 Ages 6-12. Young children will find it easy to relate to story format. Adults, especially mainstream teachers, will appreciate the clear writing.

Nadeau, Kathleen G., Ph.D.: *Help 4 ADD @ High School*; Advantage Books, Silver Springs, MD; 1998. Also appropriate for middle school students.

Quinn, Patricia O., M.D.: *Adolescents and ADD: Gaining the Advantage*; Magination Press, New York; 1995. Covers all major ADHD issues using language and format that is accessible to teen readers.

Quinn, Patricia O., M.D., and Stern, Judith, M. A.: *Putting on the Brakes: A Young Person's Guide to Understanding ADHD*; Magination Press (Brunner/Mazel, Inc.), New York, NY; 1991. Ages 8-12. One of the most informative, easy to understand books available for children.

Sternberg, Kate: *Mama's Morning*; Advantage Books, Bethesda, MD; 1997. A picture book that describes a hectic morning in the life of a family of hamster children and their ADHD mother.

Zimmet, Debbie: *Eddie Enough*; Woodbine House, Bethesda, MD; 2001. Eddie's continual disruptive behavior causes fellow third graders to call him "Eddie Enough." A diagnosis of ADHD along with an appropriate treatment plan helps Eddie to change his nickname.

## **BOOKS ABOUT SOCIAL SKILLS**

Behrman, Polly: *Why Is It Always Me?*; Seedlings Press, Altadena, CA; 1991.

Cohen, Cathi, L.C.S.W.: *Raise Your Child's Social IQ: Stepping Stones to People Skills for Kids*; Advantage Books, Silver Springs, MD; 2000.

Duke, Marshall P., Ph.D., Nowicki, Stephen, Jr., Ph.D., and Martin, Elisabeth A., M.Ed.: *Teaching Your Child the Language of Social Success*; Peachtree, Atlanta, GA; 1996.

Levine, Mel, M.D., and Clutch, Jarvis: *Jarvis Clutch-Social Spy*; Educators Publishing Service, Inc., Cambridge, MA; 2001.

Levine, Mel, M.D.: *Jarvis Clutch-Social Spy: Guidelines for Use*; Educators Publishing Service, Inc., Cambridge, MA; 2001.

McGinnis, Ellen, and Goldstein, Arnold P.: *Skillstreaming the Elementary School Child*; Research Press, Champaign, IL; 1997. Skillstreaming is an intervention program for elementary school staff to use to teach and encourage students to practice desirable prosocial behavior.

Novotni, Michele, Ph.D.: *What Does Everyone Else Know That I Don't: Social Skills Help for Adults with Attention Deficit/Hyperactivity Disorder (AD/HD)*; Specialty Press, Inc., Plantation, FL; 1999. This has a lot for kids also.

Nowicki, Stephen, Jr., Ph.D., and Duke, Marshall P., Ph.D.: *Helping the Child Who Doesn't Fit*

*In*; Peachtree Publishers, Atlanta, Georgia; 1992.

Osman, Betty B., Ph.D.: *No One to Play With: Social Problems of LD and ADD Children*; Academic Therapy Publications, Novato, CA; 1995.

Sheridan, Susan M., Ph.D.: *Why Don't They Like Me?*; Sopris West, Longmont, CO; 1998.

## **BOOKS ABOUT TRANSTIONS**

Mangrum, Charles T. II, Ph.D., and Strichart, S. Stephen, Ph.D.: *Colleges with Programs for Students with Learning Disabilities*; Peterson's Education Center on the Internet, Thomson Learning, Stamford, CT; 1994.

Mangrum, Charles T. II, Ph.D., and Strichart, S. Stephen, Ph.D.: *Colleges with Programs for Students with Learning Disabilities or Attention Deficit Disorders*; Peterson's Education Center on the Internet, Thomason Learning, Stamford, CT; 2000.

Brown, Dale S.: *Learning a Living: A Guide to Planning Your Career and Finding a Job for People with Learning Disabilities, Attention Deficit Disorder, and Dyslexia*; Woodbine House, Bethesda, MD; 2000.

Crooker, Judith, and Crooker, Stephen: *Campus Opportunities for Students with Learning Disabilities*; Octameron Associates, Alexandria, VA; 1999.

Dolber, Roslyn: *College and Career Success for Students with Learning Disabilities*; VGM Career Horizons, Lincolnwood, Illinois; 1996.

DuChosoi, Georgeann, and Stein, Elissa: *Choosing the Right College: A Step by Step System to Aid the Student with Learning Disabilities in Selecting the Most Suitable College Setting for Them*; Access to Learning, NYU, New York; 1992.

Fellman, Wilma R. M.Ed.: *Finding a Career That Works for You: A Step by Step Guide to Choosing a Career and Finding a Job*; Specialty Press, Inc., Plantation, FL; 2000.

Latham, Peter S., J.D., and Latham, Patricia H., J.D.: *Higher Education Services for Students with LD or ADD: A Legal Guide*; JKL Communications, Washington, D.C.; 1999.

Latham, Patricia H., J.D., Latham, Peter S., J.D., and Ratey, Nancy A., Ed.M.: *Tales from the Workplace: A Book of Stories Illustrating How to Succeed in the Workplace with Attention Deficit Disorder or Learning Disabilities*; JKL Communications, Washington, D.C.; 1997.

Learning Disabilities Association of Canada: *Together for Success: A Road Map for Post-Secondary Students with Learning Disabilities*; LDCA, Ontario, Canada; 1994.

Nadeau, Kathleen G., Ph.D.: *Survival Guide for College Students with ADD or LD*; Magination press (Brunner/Mazel, Inc.), New York, NY; 1994. Hints for selecting a college; how to survive once on campus.

Quinn, Patricia O., M.D., Editor: *ADD and the College Student: A Guide for High School and College Students with Attention Deficit Disorder*; Magination Press (Brunner/Mazel, Inc.), New York, NY: 1994. Eleven chapters, each written by a different expert in the field.

Quinn, Patricia O., M.D.: *ADD and the College Student: A Guide for High School and College Students with Attention Deficit Disorder*; Magination Press, Washington, D.C.; 2001.

Quinn, Patricia O., M.D., and McCormick, Anne, M.Ed.: *Rethinking AD/HD: A Guide for Fostering Success in Students with AD/HD at the College Level*; Advantage Books, Bethesda, MD; 1998.

Quinn, Patricia O., M.D., Ratey, Nancy, A., Ed.M., and Maitland, Theresa L., Ph.D.: *Coaching College Students with AD/HD*; Advantage Books, Silver Spring, MD; 2000.

Weiss, Lynn, Ph.D.: *A.D.D. on the Job: Making Your A.D.D. Work for You*; Taylor Publishing Company, Dallas, Texas; 1996.

Taymans, Juliana M., Ph.D., West, Lynda L., Ph.D., and Sullivan, Madeline, M.A.: *Unlocking Potential*; Woodbine House, Bethesda, MD; 2000.

\*Most of these books and magazines can be obtained through ADD Warehouse (800-233-9273) or CACLD (203-838-5010).

## **VIDEOS FOR PARENTS AND/OR PROFESSIONALS**

A.D.D. From A to Z: Understanding the Diagnosis and the Treatment of Attention Deficit Disorder in Children and Adults.

Hallowell, Edward, M.D.

(1 Hour 47 Minutes)

ADHD: What Do We Know?

Barkley, Russell A., Ph.D.

(35 minutes) Basic Introduction.

How Difficult Can This Be? The F.A.T. City Workshop.

Lavoie, Richard D.

(70 Minutes)

The tape helps parents and professionals learn what it feels like to be L.D. Appropriate for children who have LD in addition to ADD.

Learning Disabilities and Social Skills: Last One Picked...First One Picked On.

Lavoie, Richard

Parent Version (62 minutes); Teacher Version (68 minutes)

Each comes with a manual.

SOS! Help for Parents

Clark, Lynn, Ph.D.

(65 minutes) Behavior management ideas.

Surviving your Adolescents: How to Manage and Let Go of Your 13-18 Year Olds.

Phelan, Thomas W., Ph.D.

(130 Minutes)

When the Chips are Down...Learning Disabilities and Discipline Strategies for Improving Children's Behavior.

Lavoie, Richard

(62 Minutes)

Why Won't My Child Pay Attention?

Goldstein, Sam, Ph.D. and Goldstein, Michael, Ph.D.

(76 minutes). Comprehensive.

1-2-3 Magic: Training Your Preschooler and Pre-Teen To Do What You Want Them To Do!

Phelan, Thomas W.

(120 minutes)

## **VIDEOS FOR PROFESSIONALS**

ADHD in the Classroom: Strategies for Teachers

Barkley, Russell A., Ph.D.

(40 minutes)

A New Look at ADHD: Inhibition, Time, and Self-Control.

Barkley, Russell A., Ph.D.  
(38 Minutes)  
Educating Inattentive Children  
Goldstein, Sam, Ph.D. and Goldstein, Michael, M.D.  
(120 minutes) For regular and special education teachers.

## **VIDEOS FOR CHILDREN**

It's Just Attention Disorder: A Video for Kids  
Goldstein, Sam, Ph.D. and Goldstein, Michael, M.D.  
(30 minutes)

Jumpin' Johnny Get Back To Work!  
Gordon, Michael, Ph.D.  
(30 minutes)

\*These videos are available through ADD Warehouse (800-233-9273). The Lavoie videos are also available through CACLD (203-838-5010).

## **Appendix C**

### **ADHD RESOURCES**

Should you, or some someone you know, be unable to afford appropriate diagnosis or treatment of ADHD, contact one of the groups or agencies listed below for specific information about financial resources and clinical services for children, teens or adults having, or suspected of having, ADHD.

## **Connecticut Parent Support/Educational Groups and Agencies**

### **Connecticut Association for Children and Adults with Learning Disabilities (CACLD)**

25 Van Zant Street, Suite 15-5  
East Norwalk, CT 06855  
TEL: 203-838-5010/ FAX: 203-866-6108

### **Connecticut Parent Advocacy Center, Inc. (CPAC)**

338 Main Street  
Niantic, CT 06357  
1 -800-445-CPAC/ 860-739-3089

### **Connecticut State Department of Education**

Bureau of Special Education  
P. O. Box 2219, Room 369  
Hartford, CT 06145-2219  
860-713-6910

### **General, Children's, or Psychiatric Hospitals**

Most hospitals have low-cost or free clinics for children and adults with inadequate or no medical insurance. Some, such as CT Children's Medical Center and the Institute of Living (Hartford), and Yale-New Haven Hospital have specialized Attention Deficit Disorders clinics.

### **Greater Danbury CHADD**

Lorinda Arconti, Coordinator  
203-790-8654

Meets first Wednesday of each month except July and August at Central Christian Church in Danbury. The group is concerned with attention issues regarding children and adults.

As of Fall 2002, this is the only ADHD support group in CT.

To locate a possible new local CHADD group, call National CHADD at 800-233-4050.

### **Infoline**

A telephone service providing information about many educational, social, emotional, medical, and financial resources in CT. To get local, county, or statewide numbers/addresses for ADHD resources: call 211.

### **Learning Disabilities Association of CT, Inc. (LDA of CT)**

999 Asylum Ave. Suite 504  
Hartford, CT 06105  
TEL: 860-560-1711/FAX: 860-560-1750

### **Special Education Resource Center (SERC)**

25 Industrial Park Road  
Middletown CT 06457

1-800-842-8678/860-632-1485

## **Title XIX**

The family with insufficient or no coverage for ADHD diagnosis or treatment may be able to get Title XIX coverage for the *child or adult affected only*, based on that *one person's percentage* of total family income and current medical bills. (The eligibility scale is more liberal than that for welfare or food stamps.) For information, call **CT Department of Social Services** in your area and ask for the client assessment team.

## **Magazines, Newsletters, and Other Sources of Information**

### **ADD Warehouse**

(Specializes in educational and therapeutic materials re: AD/HD)  
300 Northwest 70th Avenue - Suite 102  
Plantation, FL 33317  
1-800-233-9273

### ***ADDendum***

(newsletter for Adults with AD/HD)  
c/o CPS  
5041-A Backlick Road  
Annandale, VA 22003

### **Attention Deficit Disorder Association (ADDA)**

4300 West Park Boulevard  
Plano, TX 75093

***ADDvance: A Magazine for Women with Attention Deficit Disorder.*** Editors: Kathleen Nadeau, Ph.D., and Patricia Quinn, M.D. (From Advantage Books, 1001 Spring Street, Suite 206, Silver Spring, MD 20910; Phone: 1-888-238-8588; Fax: 301-562-8449. Frequently has articles for girls with attention deficits.

***ADHD Report;*** Russell A. Barkley & Associates. Available from The Guilford Press, 72 Spring Street, New York, NY 10012. Phone: 1-800-365-7006; Fax: 212-966-6708.

***Attention! The Magazine for Families and Adults with Attention-Deficit/Hyperactivity Disorder;*** Editor: Patricia L. Harman. (Call 301-306-7070 or write CHADD, 8181 Professional Place, Suite 201, Landover, MD 20785).

### ***Challenge***

(newsletter pertaining to ADHD)  
Challenge, Inc.

42 Way To The River  
West Newbury, MA 01985  
508-462-0495

**CH.A.D.D. (Children and Adults with Attention Deficit Disorders)**

8181 Professional Place, Suite 201  
301-306-7070  
1-800-233-4051

National CH.A.D.D.

Offers quarterly newsletter, bi-monthly magazine, and annual conference.

**Learning Disabilities Association of America (LDA)**

156 Library Road  
Pittsburgh, PA 15234  
412-340-1515

(National LDA)

Offers comprehensive newsletter and annual conference.

**PhRMA (Pharmaceutical Research and Manufacturers of America Association)**

1-800-7624636

PhRMA members provide various medications free through applicant's physician, providing that the applicant or his/her child meets financial limits and is referred by physician. Call number listed above for more information or to obtain latest directory of patient assistance programs.

## Appendix D

### GLOSSARY

**Behavior management techniques**

Verbal, written, visual, or other reminders that help shape or change the student's behavior, motivation, or academic functioning.

**Biofeedback**

A therapy based on the theory that people can learn to recognize and manage certain brain waves, thus improving their ability to concentrate and perform mental tasks.

**Brain damaged, etc.**

Earlier terms that referred to age- inappropriate levels of motor activity, ability to attend, social skills and impulse control, and/or problems in intellectual or academic functioning.

**Collaboration**

Parents and professionals working together to develop and/or provide an appropriate physical setting and academic and social-emotional environment to improve the student's functioning at home and at school.

**Color coding**

Using color to structure and enhance a student's academic performance or organizational skills by using different colored items such as folders, book covers, or loose-leaf dividers.

**Differential Diagnosis**

Consideration by clinician(s) of the possible diagnoses represented by a cluster of symptoms.

**Frustration Tolerance**

The ability to withstand frustration without over-reacting.

**Interventions**

Various methods or strategies such as instructional adaptations, counseling or behavior modification used by parents and professionals to help a child understand or learn a skill or specific information.

**Maladaptive**

Inappropriate patterns of behavior which adversely affect one's adjustment to his/her environment.

**Mental age**

A person's assessed level of mental development compared to their actual age.

**Modifications**

Changes made in a child's physical, academic, social or psychological environment to enable the child to more fully participate and benefit from a specific activity or experience.

**Peer tutoring**

Academic help provided to the child by a classmate or other students.

**Reporter biases**

Ideas, views, and opinions that may not be totally objective, as they may be influenced by personal factors.

**Stimulants**

A type of medication that increases mental alertness and/or motor performance.

**Transitions**

Times when a student must stop one activity and prepare to begin another.

# Appendix E

## ADHD Related Web Sites

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

[www.scatteredminds.com](http://www.scatteredminds.com)

[www.mentalhealth.com](http://www.mentalhealth.com)

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

[www.newideas.net](http://www.newideas.net)

[www.PediatricNeurology.com](http://www.PediatricNeurology.com)

[www.ADDvance.com](http://www.ADDvance.com)

[www.ADDchoices.com](http://www.ADDchoices.com)

[www.ADHDnews.com](http://www.ADHDnews.com)

[www.helpforADD.com](http://www.helpforADD.com)

[www.ADDresource.com](http://www.ADDresource.com)

[www.add.about.com](http://www.add.about.com)

[www.oneaddplace.com](http://www.oneaddplace.com)

[www.edutechsbs.com/adhd](http://www.edutechsbs.com/adhd)

[www.adhd.com](http://www.adhd.com)

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

## Appendix F

### COMMENTS

The Connecticut Task Force on ADHD was established to provide parents, educators, and mental health professionals with current information on diagnostic and treatment strategies for ADHD. Toward that end, we have developed this Task Force '05 report. We would like to know if there is anything else we can do to serve you better.

Please check all items that interest you:

\_\_\_\_\_ **More information** (please be specific)  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ **Interested in speakers: For Parents** \_\_\_\_\_ **For Others** \_\_\_\_\_  
\_\_\_\_\_ **Please name group** \_\_\_\_\_

\_\_\_\_\_ **Training on related topics (please be specific)**  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ **Other**  
\_\_\_\_\_  
\_\_\_\_\_

**Your comments on how to improve future revisions of this document will be helpful.**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**May we use you as resource?** (Please send your name, experience, and resume)

**Would you be interested in attending a Task Force Meeting?** \_\_\_\_\_ **Yes** \_\_\_\_\_ **No**

Name \_\_\_\_\_

Address \_\_\_\_\_

Telephone (w) \_\_\_\_\_ (h) \_\_\_\_\_

Please forward this to:                      Special Education Resource Center  
   **Attention: ADHD**  
   25 Industrial Park Road  
   Middletown, CT 06457