



Effective Strategies for the Child with AD/HD: The Pathway to Success

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I. Overview of Attention-Deficit/Hyperactivity Disorder (AD/HD)

AD/HD is one of the most common neurobehavioral disorders of childhood. It is usually first diagnosed in childhood and often lasts into adulthood.

Children with AD/HD have trouble paying attention, controlling impulsive behaviors (may act without thinking about what the result will be), and in some cases, are overly active.

AD/HD occurs in approximately 3-7 percent of the childhood population and approximately 2-5 percent of the adult population. Among children the gender ratio is approximately 3:1 with boys more likely to have the disorder than girls. Among adults, the gender ratio falls to 2:1 or lower.

The disorder has been found to exist in virtually every country in which it has been investigated, including North America, South America, Great Britain, Scandinavia, Europe, Japan, China, Turkey and the Middle East. The disorder may not be referred to as AD/HD in these countries and may not be treated in the same fashion as in North America but there is little doubt that the disorder is virtually universal among human populations.

The disorder is more likely to be found in families in which others have the disorder or where depression is more common. It is also more likely to occur in those with conduct problems and delinquency, tic disorders or Tourette's Syndrome, learning disabilities, or those with a history of prenatal alcohol or tobacco-smoke exposure, premature delivery or significantly low birth weight, or significant trauma to the frontal regions of the brain.

A. Signs and Symptoms

It is normal for children to have trouble focusing and behaving at one time or another. However, children with AD/HD do not just “grow out” of these behaviors. The symptoms continue and can cause difficulty at school, at home, and with friends.

A child with AD/HD might:

- have a hard time paying attention
- daydream a lot
- not seem to listen
- be easily distracted from schoolwork or play
- forget things
- be in constant motion or unable to stay seated
- squirm or fidget
- talk too much
- not be able to play quietly
- act and speak without thinking
- have trouble taking turns

According to DSM-IV, there are three different types of AD/HD, depending on which symptoms are strongest in the individual:

Predominantly Inattentive Type: It is hard for the individual to organize or finish a task, to pay attention to details, or to follow instructions or conversations. The person is easily distracted or forgets details of daily routines.

Predominantly Hyperactive-Impulsive Type: The person fidgets and talks a lot. It is hard to sit still for long (e.g., for a meal or while doing homework). Smaller children may run, jump or climb constantly. The individual feels restless and has trouble with impulsivity. Someone who is impulsive may interrupt others a lot, grab things from people, or speak at inappropriate times. It is hard for the person to wait their turn or listen to directions. A person with impulsiveness may have more accidents and injuries than others.

Combined Type: Symptoms of the above two types are present in the person.

Note: My staff and I (and others) believe that *AD/HD, Combined Type* and *AD/HD, Inattentive Type* are very different disorders. We observe opposite symptoms between these groups. Instead of being hyperactive, intrusive, and distracted, children with *AD/HD, Inattentive Type* are lethargic, slow-moving, hypoactive, spacey, daydreamy, quiet, passive, withdrawn, confused, and “in a fog.” They are the polar opposites in their clinical presentation.

The child with *AD/HD, Inattentive Type* is staring into space, seemingly “2 steps behind,” and not processing information accurately. It is helpful to see the difference because it may have an impact on the strategies that you choose in the classroom.

B. Developmental Progression

The symptoms of AD/HD appear to arise, on average, between 3 and 6 years of age. This is particularly so for those subtypes of AD/HD associated with hyperactive and impulsive behavior. Others may not develop their symptoms until somewhat later in childhood. But certainly the vast majority of those with the disorder have had some symptoms since before the age of 13 years.

Those who have the Predominantly Inattentive Type of AD/HD that is not associated with impulsiveness appear to develop their attention problems *somewhat later* than do the other subtypes, often in middle or later childhood.

AD/HD symptoms are developmentally stable. Although the absolute level of symptoms does decline with age, this is true of the inattentiveness, impulsiveness, and activity levels of normal individuals as well. Thus, children with AD/HD may be improving in their behavior but not always catching up with their peer group in this regard. This seems to leave these children at risk of being chronically behind others of their age in their capacity to inhibit behavior, sustain attention, control distractibility, and regulate their activity level.

Research suggests that among those children clinically diagnosed with the disorder in childhood, 50-80 percent will continue to meet the criteria for the diagnosis in adolescence, and 10-65 percent may continue to do so in adulthood. Whether or not they have the full syndrome in adulthood, at least 50-70 percent may continue to manifest some symptoms that are causing them some impairment in their adult life.

C. What Causes AD/HD?

The central psychological deficits in those with AD/HD have now been linked through numerous studies using various scientific methods to several specific brain regions (prefrontal cortex, the basal ganglia, and their relationship to the central aspects of the cerebellum). Most neurological studies find that, as a group, those with AD/HD have less brain electrical activity and show less reactivity to stimulation in one or more of these regions. Neuroimaging studies of groups of those with AD/HD also demonstrate relatively smaller areas of brain matter and less metabolic activity of this brain matter than is the case in control groups used in these studies.

Brain regions involved in self-regulation (executive functions) show differences from those of controls. In most studies, the frontal lobes or subregions of the frontal lobes are found to be smaller in subjects with AD/HD than in controls.

Various regions of the basal ganglia, particularly the caudate nucleus, have been reported to be smaller in children with AD/HD compared with controls.

I should note that deficits in executive function (which are housed in the prefrontal cortex) have emerged as key factors impacting academic and career success. Executive skills permit individuals to appreciate the longer-term consequences of their actions and guide their behavior across time more effectively. Moreover, proper executive functioning is essential for working memory and the ability to plan for the future, as well as maintaining and shifting strategies in the service of long-term goals.

AD/HD is highly inheritable and, in most cases, of familial origin. Parents with AD/HD have a better than 50% chance of having a child with AD/HD, and about 25% of children with AD/HD have parents who meet the formal diagnostic criteria for AD/HD. Twin studies have placed the heritability of AD/HD in the range of 80%. In fewer cases, AD/HD is “acquired” such that the developing fetus is exposed to toxins or trauma and consequently, AD/HD symptoms emerge later on. About one in five AD/HD children have an acquired case. They tend to be mostly boys. Why is that? Because the male brain is more prone to injury, both prenatally and post-natally than the female brain. Most girls with AD/HD have genetic type. Twenty percent of boys with AD/HD have the non-genetic, acquired type.

AD/HD can be considered a disorder of neurotransmitter function, with particular focus on the neurotransmitters dopamine and norepinephrine. There has been extensive research demonstrating that dopamine is critical in the regulation of learning, as well as maintaining trained or conditioned responses and motivated (goal-directed) behaviors. Dopamine also plays an important role in working memory, the ability to “keep something in mind” for a brief period of time. Norepinephrine is involved in maintaining alertness and attention. Norepinephrine neurons are triggered by novel and important stimuli and are quiescent during sleep. Incidentally, psychostimulant medications that increase dopamine and norepinephrine within the brain, are effective treatments for AD/HD.

Important: Research does not support the popularly held views that AD/HD is caused by eating too much sugar, watching too much television, parenting, or social and environmental factors such as poverty or family chaos. Of course, many things, including these, might make symptoms worse, especially in certain people. But the evidence is not strong enough to conclude that they are the main causes of AD/HD. Moreover, AD/HD is not a chiropractic issue and is not curable with spinal manipulation. Programs that claim to change the child’s “underlying brain dysfunction through unique protocols which

target sensory-motor deficits, neurocognitive/academic concerns, and bio-nutritional needs” have no controlled empirical support.

II. What are these executive skills and why are they essential to understand in order to help the child with AD/HD?

The executive skills that help us decide what activities or tasks we will pay attention to and which ones we will choose to do. These skills allow us to organize our behavior over time and importantly, move past the immediate demands of our environment in favor of longer-term goals. When we are successful in using executive skills, we can plan and organize activities, sustain our attention, and persist to complete a task. In addition, executive skills enable us to manage our emotions, and monitor our thoughts so we can work efficiently and effectively. In other words, executive skills allow people to regulate their own behavior. Many of the upcoming comments will apply to the child presenting with the AD/HD, Combined Type. However, interventions can ultimately be applied to any child with executive skill deficits.

A. Executive Skills Defined

1. Inhibition - this is the capacity to think before you act. To resist the urge to say or do something. To “apply the brakes,” evaluate a situation and know how our behavior might impact it. Children with impairments in inhibiting responses are often referred to as “impulsive” or “hyper.” They choose a piece of cake now as opposed to waiting a week to get the whole cake. Also subsumed in here is something referred to as "goal-directed persistence" - this is the capacity or drive to follow through to the completion of a goal and not be put off by competing demands or interests. Resisting the urge to go and do something more entertaining so that you can read your book.

2. Shifting or flexibility - this is the ability to revise plans in the face of obstacles, setbacks, new information, or mistakes. Involves adaptability to changing conditions. Sometimes we refer to this as the ability to “shift.” Aspects of shifting include: making transitions, tolerating change, problem-solving flexibility, switching or alternate focusing, and changing focus from one mindset or topic to another.

3. Self-regulation of affect or emotional control - this is the ability to manage emotions in order to achieve goals, complete tasks, or control and direct behavior. Can the individual control or modulate his or her emotional responses? Can they react to events appropriately? Do they display outbursts, sudden and/or frequent mood changes, or excessive periods of emotional upset?

4. Initiation - this is the ability to get to a task without procrastination or in a timely fashion. Can the child begin tasks and independently generate ideas, responses, problem-solving strategies? Are they a self-starter? Do they need to be told to begin a task even when they're willing to work? Do they have difficulty getting started on homework, in-class assignments, or a chore?

5. Working memory - this involves the capacity to hold information in mind, allowing one to complete a task, encode information, and generate goals, plans, and move through sequential steps to achieve goals. Working memory is essential to carry out multistep activities, complete mental manipulations such as mental arithmetic and follow complex instructions.

6. Time management - the ability to estimate how much time one has, how to allocate it, and how to stay within time limits and deadlines.

7. Planning - this is the ability to create a roadmap to reach a goal and complete a task. Doing things today as one prepares for tomorrow or the following week. It also involves the ability to focus on what's important now and ignore things that aren't as important.

8. Organization - this involves the ability to arrange or place things according to a system. How orderly is one's work and storage space (e.g. desks, lockers, and backpacks)?

9. Metacognition or monitoring - this is the ability to stand back and take a bird's eye view of oneself in a situation. This includes self-monitoring and self-evaluative skills. (e.g., asking oneself "how am I doing?") Sometimes we also call this "self and interpersonal" awareness.

These aforementioned executive skill deficits are the Achilles heel of the individual with AD/HD. If you can master this information, you will have an easier time assisting and educating these children. Many of those who live and work with individuals with AD/HD will tell you that if you ask them to do anything that *does not* involve the above-referenced skills, they will do "as good or better" than a child without AD/HD.

B. Barkley's Model of Executive Skill Development

Russell Barkley has a fantastic model regarding executive functioning in the person with AD/HD. He describes a sequence for the development of these skills beginning in infancy.

a. Barkley's model emphasizes behavioral inhibition as the cornerstone of all of the other executive skills. He claims that inhibition begins to emerge in the 5 to 12 month range. As the child develops and enters the school setting, behavioral inhibition has three properties that allow the individual to delay or stop the behavior:

1. The ability to delay or prevent the response leading to immediate consequence so that some later occurring consequence may impact behavior. (e.g., "I won't say something mean which would annoy my mommy. I will listen quietly so she'll respond positively to me later.")

2. The ability to stop ongoing behaviors when they prove unsuccessful (e.g., "yelling at my friend is not getting a positive response from my teacher.")

3. The ability to manage distractions or interruptions that could interfere with the work of other executive skills (e.g., "I need to move away from my friend because his comments are distracting me.")

Thus, behavioral inhibition helps us think before we act and to decide when and if we will respond. Without inhibition, you can see how difficult it would be to plan, to organize, and to persist on tasks.

b. The next executive function that evolves according to Barkley is his non-verbal working memory. This becomes the foundation for the young child to make decisions and control their behavior. As information and experience increase, the child develops the ability to look backward and forward (e.g., hindsight and forethought).

c. Following inhibition and working memory, is the development of self-regulation and affect and motivation. Picture the child who is working so hard to put together the blocks. He forgoes another activity because he sees in his mind his smiling mother (e.g., a working mental representation). That image of his happy, loving warm mommy motivates him to complete setting up those blocks. There is emotional value to this working memory and he can persist.

d. Next, is the development of the internalization of speech. As the child develops, language is also evolving. He can manage this behavior by the use of language. Sometimes this language or dialogue is in his head. You and I don't see this, but there is problem-solving, self-instruction, an understanding of rules, and metacognition all going on. This is the child who's emerging as a maturing youngster engaged in the learning and social aspects of school.

e. Finally, Barkley speaks about reconstitution. This allows the developing child to become cognitive and behaviorally more flexible and creative. This typically emerges in early elementary school. The child is now ready to begin to face the growing demands of the academic environment.

As the school years progress, the demand to focus, sustain attention, inhibit impulses, organize one's world, plan for future demands, resist getting distracted, and get along without showing too many negative emotions become more essential for success. AD/HD delays the development of inhibition, which leaves the person with AD/HD more under the control of external events and other people around them, when people of the same age are moving in the direction of being controlled by mental representations about time and the future.

Moreover, AD/HD is a disorder of “doing what you know.” Executing what you know. Most children with AD/HD children know what to do. They know right from wrong. They know that inappropriate behavior is disruptive and at times, inappropriate. They understand the rules of the classroom. They know that if they don't return their homework, they will lose points.

The problem is that the child doesn't know how to show what they know at the “point of performance”- like the classroom. So as an educator or parent, what is the point of performance for the particular behavior that you are trying to change?

Interventions to assist the child with AD/HD must be at the point of performance or they will not work.

C. Executive Skills and the Point of Performance - The Pathway to School Success

Parents and teachers have two primary goals as they assist kids with executive skill weaknesses. The first goal is to help the child to be successful in their daily lives. The second goal is to teach the skills and approaches that allow children to be independent in the long run.

Short-term goals involve building a “prosthetic” environment. Just as we provide prostheses for someone who cannot walk, children with executive weaknesses need adults to adapt their environment and tasks when they do not yet have sufficient executive competence to succeed on their own. The supports that are needed change over time and, hopefully, will not be needed forever in many cases. Modifications, accommodations, adapting are all essential for the child with AD/HD to find success.

The longer term goal is to help the child develop habits and routines that can eventually become automatic. Building habits requires lots of repetition. It requires parents and teachers to stay on the same page. This is why it is so important to provide this prosthetic environment while skills are still developing and maintain quality communication between home and school settings.

Interventions are not about doing everything for the child. They are not excuses for inadequate effort or “bad” behavior. They are not about praising or rewarding or enabling behaviors.

We will take a tour through executive skills and strategies to build them. Many of these methods can be implemented in the home or classroom without any formal changes to the child's instruction (e.g., special education, etc.).

Assisting with executive skills involves: describing the problem behavior, setting goals to modify the problem behavior, establishing a procedure or a set of steps to reach the goal, supervising the child following the procedure, and evaluating the process and making changes, if necessary.

D. Executive Skill Strategies

1. Inhibition

Impulse control can come in two forms - problems with verbal impulsivity or physical impulsivity. Remember your goal here is to get the child to think before they act. Children who have trouble with response inhibition are impulsive, saying or doing things without thinking, and this gets them in trouble with parents, teachers, and peers.

A child with inhibitory control difficulties often requires additional structure in his environment at the outset in order to maintain more appropriately controlled behavior.

At school, teachers can provide external structure in the form of general guidelines and specific rules. Teachers can post the rules on the wall and review the rules with the children. Since, communication and consistency are critical between home and school environments, the teacher should send a copy of classroom rules home to parents.

Environmentally, there is a need to increase external controls and restrict access to the settings or situations where the child can get in trouble. For example, a child who runs off of the playground and into the street should have a designated

area with supervision. If the student calls out in class inappropriately, they may need to sit in the front of the classroom where they can be monitored so that their disruptions do not adversely affect the rest of the classroom.

Again, teachers can post class rules. Remind the child before class, “remember which behaviors we are working on?” How about taping the rules of the class to the child's desk?

Provide cues, prompts and a plan for the child that could help. Maybe the teacher can introduce a “talking stick” to the class and indicate that only the person who has the stick can speak at that moment. This is a big and salient cue.

The child might need a more explicit, extensive, and/or clear set of rules and expectations, and might need these reviewed with him regularly.

It is important to limit distractions that are problematic for a student with inhibitory control difficulties. This might include visual and auditory distractions as well as other students or activities that can pull the student's attention away from a task.

Environmental structure can be an important consideration for children as well. Open classroom settings often have too many distractions and too many opportunities for impulsive behaviors.

A student often benefits from careful placement in the classroom. This is not necessarily in the front and center, but might be close to the center of activity to help him feel more involved or in a place where frequent eye contact with the teacher is likely. Disinhibited children often require more frequent redirection and more frequent limit setting from the teacher. Placement in close proximity of the teacher can facilitate greater interaction without disturbing other students.

The child might benefit from sitting with or near more well-controlled and more focused peers who can serve as models and can resist his distracting tendencies.

A lower student-to-teacher ratio may be necessary to allow for more frequent interaction between the student and his instructor. The inclusion of aids, parent helpers, or other paraprofessionals within the classroom can help provide the additional external structure.

Often a child with impulse control difficulties finds loads of homework daunting. The student may need his homework requirements reduced to within his capabilities at the outset, with stepwise increases in expectations as he

demonstrates success. Parents need to monitor work completion at home until the child can work more independently.

Response delay techniques can be helpful for some children. The child might be taught strategies such as counting to 5 or 10 before responding verbally or physically.

Several “stop and think” methods are available that teach children to inhibit their initial response, to consider the potential consequences of their behaviors, and to further develop a plan of approach to a situation. Some are cognitive-behavioral strategies, and others are available as games for school counseling, for example.

If the student demonstrates an impulsive approach to tasks, he might be asked to verbalize a plan of approach before starting work. This places a short time period between the impulse and the action and can allow for better planning and a more strategic approach. The student's teacher or parent can ask him to explain how he will approach a task, including his goals for accuracy and time.

It is often helpful to require a student to develop and express more than one plan of approach to a task before starting. This helps him to focus his attention on possible consequences, and alerts him to alternative strategies.

The child often needs more frequent breaks, particularly with motor activity. Breaks can be a reward for work completed and only need to be one or two minutes in duration. The child might be asked to complete some independent desk work within his capabilities before running an errand, taking a bathroom break, or simply bringing his work to the teacher for review.

It is often important to set goals for accuracy of work when a child tends to rush through his work. Acknowledging the speed with which the student completes his work can help him feel good about his accomplishments; increasing accuracy or neatness might be suggested as additional goals.

Behavioral programs (e.g., Star Charts) are often a necessary component for addressing impulse control difficulties, particularly when there are behavioral problems (e.g., the child acts in a physically or socially impulsive fashion). It is important to appreciate that, by definition, a child with inhibitory control difficulties cannot consider potential consequences of his actions in the moment, even though he may demonstrate appropriate knowledge of consequences. **Therefore, behavioral programs geared toward controlling stimuli that precede or lead to impulsivity are likely to be more successful than those that focus on the consequences following an impulsive action.** Parents and teachers can likely anticipate times when the student is likely to act in a disinhibited

manner. Intervening at that “point of performance” may be more effective than attempting to apply consequences during or after a problem.

Limiting stimuli or situations where the student might be impulsive can be important, or discussing the likelihood of impulsive behaviors and expectations may also be helpful. For example, if the student has difficulty with behavioral control on the playground, he might meet with the teacher for a few minutes before joining his peers to discuss expectations and actions that he or his teacher might take to avoid problems. Less structured environments (e.g., playground, cafeteria, bus) need to be closely monitored.

Consequence-based systems may be an effective support for the student. While he may have difficulty considering consequences at the moment, reinforcement for appropriate behaviors and response costs for inappropriate behaviors may be helpful and necessary.

It is usually important that any behavior program be implemented across settings for consistency. The student's parents, teachers, and other involved individuals should be consistent in their use of behavioral techniques.

Social difficulties often become apparent for a child with inhibitory control difficulties. A child who behaves impulsively with peers may say or do inappropriate things and peers will learn to keep their distance. It is important to intervene early to avert social difficulties and the negative effects on the student's self-esteem. Some suggestions include using cross-age tutoring or mentoring with an older student who can explain and model appropriate social behaviors can be an effective means of increasing social success. Up to 50 percent of children with AD/HD are at risk of social rejection by their peers.

The student might benefit from small group activities with more focused and well-controlled peers. His peers can serve as role models, but may need adult guidance in ways to respond to the student's impulsive behaviors.

Guided observations of peer interactions may be helpful for the student as a means of learning more appropriate social skills. A teacher or parent might meet with him briefly at the outset of an activity and discuss how other children are behaving.

2. Shifting

Remaining consistent is an important aspect of structured, systematic teaching, and it promotes learning and generalization across settings and time. Consistency in teaching and management does not imply rigidity, but rather a systematic form

of teaching and dependable, predictable environments. Increased consistency is often necessary at the outset for a child with difficulties shifting or adjusting to changes in routine, schedule, or activity. This may include the use of teaching and behavioral strategies that remain the same across time, environments, and people.

A child with difficulties shifting can often adjust to changes in schedule or routine with the use of visual organizers such as pictures, schedules, planners, and calendar boards. This will let the student know the order of activities for the day, and can alert him to variations in the usual sequence of events before they occur.

Adherence to routines and resistance to change may reflect the student's need for predictability in his environment. An essential tenet of intervention is to facilitate feelings of security by maintaining a set of basic routines, then adjusting routines slightly in a stepwise fashion.

Displaying a daily schedule and reviewing it at the outset of the day can help a student anticipate the sequence of events and can serve as a useful reminder of any changes in his daily routine.

For a child who benefits from routines or who rigidly adheres to routines, development of positive routines and a set of alternative routines can be functional. Essentially, the student's day can be viewed as a sequence of routines, such as a morning routine, a school routine, and an evening routine.

A child with difficulties shifting attention and cognitive set often needs to focus on only one task at a time. Presenting one task at a time and limiting choices to only one or two may be helpful.

Some children can benefit from external prompting to shift attention, behavior, or cognitive set from one activity or focus to the next.

One of the most effective strategies for a child with difficulty adjusting to change in routine is the use of the "2-minute warning." Teachers and parents can alert the student that one activity is about to end and another will begin. Allowing a few minutes of "down time" or leisure activity between the end of one activity and the beginning of the next can also facilitate transitions.

Making the change in activity another form of routine may be helpful. That is, it may be useful to indicate a change and to complete the change of activity in a similar fashion each time. For example, giving a 2-minute warning that the activity is about to change, providing a signal to indicate that the activity is changing, and putting away materials for one task then bringing out the next can make the change itself a comfortable routine.

Any changes in scheduled activities, persons, or events can be placed on the student's schedule and called to his attention with as much advance notice as possible. This provides more time for him to adjust to the change.

Some children can benefit from set time limits for each task before a shift to the next task is required. The student might work on one activity or assignment for a set period then an alternative activity for the next period. Use of a timer can facilitate the student's adjustment to change in activity.

3. Emotional Control or Self-Regulation of Affect

Children with AD/HD tend to display their emotions more readily, and it will be the negative ones that cost them in their peer relationships. They tend to struggle with keeping their emotions to themselves.

People with AD/HD may seem more emotional but they are not necessarily more emotional than those without AD/HD. In reality, they're more demonstrative of their emotions than others. People without AD/HD can typically keep their emotions to themselves, especially as they get older. Children with AD/HD do not. They may impulsively show the emotion when it occurs.

It may be useful to manage stimuli or antecedents that appear to produce emotional changes or outbursts in the student. Some situations, peers, or tasks may need to be initially avoided or limited until he experiences more success in managing his emotional expression.

It may be helpful for the student's parents and teachers to model appropriate emotional modulation. They might talk aloud through a situation that provokes feelings of anger or sadness and explain how they will deal with their feelings.

If the student responds with emotional outbursts to school work, it may be helpful to return to mastery or success levels and to adjust academic demands.

Clear rules and expectations for behavior, including emotional modulation or regulation, both in the classroom and at home, may be important. Such explicit expectations can provide predictability and a feeling of control over the situation, which in turn can facilitate better emotional modulation.

Difficulties with emotional control can often be viewed as an expression of disinhibition. Thus, techniques for supporting inhibitory control and reducing impulsivity may be helpful.

The student might benefit from opportunities to discuss upcoming situations or events that may provoke an emotional outburst. Increasing his awareness of the potential for emotional reactivity and the likely consequences to follow may help him modulate more effectively in the moment or at the point of performance.

Processing situations that have led to emotional outbursts with the student in a nonthreatening setting and manner is important. Choose a situation where he is relaxed and therefore more receptive to objective analysis of what happened. This can help the student gain better control while increasing his awareness of his reactions.

Peer modeling may be helpful. Placing him in activity-focused, small groups with well-controlled peers may help him emulate their behavior. The student might benefit from learning response delay techniques, similar to those used to help with inhibitory control (e.g., practice leaving the situation, counting before responding, and/or developing two or more possible responses). Also, thinking through potential ramifications of his responses may reduce the frequency or intensity of an immediate emotional reaction.

A child with strong emotional responses to events or situations may benefit from learning a concrete, simple metaphor to help increase emotional monitoring and increase the likelihood of a more appropriate response. For example, the student might work in therapy or with a counselor to develop a “thermometer” or “speedometer” metaphor for measuring anger or distress. He might label each temperature or speed to reflect degrees of anger, such as “10 = normal, 20 = irritated, 30 = getting mad, . . . 100 = out of control.” Each level can then be tied to a specific concrete behavior, such as counting to delay responses, terminating the conversation, seeking adult intervention, or immediately leaving the situation.

The student might benefit from increased awareness of the strength of his emotional reactions and the impact this has on others. Discussing a recent situation with the student when he is calm is one way to help increase his awareness, while also considering other ways he might approach a similar situation in the future. Peer group counseling can provide an opportunity for feedback from peers. Methods for increasing self-monitoring of behavior may be appropriate.

Some children with difficulty modulating affect require psychotherapy to help them develop a clear, practical, affective vocabulary. Such work can help them differentiate and label complex, overwhelming feelings as well as practice alternative ways of expressing emotions.

He might benefit from learning an “emotional vocabulary” or “scripts” for dealing with situations that provoke strong emotions.

A child who experiences difficulty with emotional control often needs short breaks or a “cooling off” period to consider his response to an event or situation. This is best taken before an emotional outburst occurs. The student might be given permission to take a “time out” when needed or to leave the situation and seek an identified adult with whom he can discuss his feelings. It is important to avoid viewing “time out” as a punishment, and to reward the student for removing himself from a situation independently.

Behavioral programs that are designed to support independent use of coping skills can be an important aid. Reinforcing the student's ability to identify stress-inducing situations ahead of time, his use of relaxation methods, or his implementation of more modulated forms of emotional expression (e.g., verbalizing feelings associated with a stress response or verbalizing the impact of the stressor) may be helpful.

4. Initiation

It may be helpful to appreciate that children with initiation difficulties have trouble “getting going” or starting. This can be exhibited in a number of ways: (a) behaviorally, such that they cannot get started on physical activities such as getting up in the morning; (b) socially, such that they have difficulty calling friends or going out to be with friends; (c) academically, such that they have trouble getting started on homework or assignments; or (d) cognitively, such that they have difficulty coming up with ideas or generating plans.

Increased structure in the environment or in an activity can help with initiation difficulties. Building in routines for everyday activities is often important, as routine tasks and their completion become more automatic, reducing the need for independent initiation. For example, the morning routine can be broken down into a sequence of steps, and these steps can be written down on index cards or a simple list. The student might then follow the list of steps each day with supervision as needed until the routine becomes automatic. The student can learn to use such lists as prompts.

External prompting may be necessary to help the student get started. The student's teacher might stop by his desk at the outset of each task and prompt him to start his work, or perhaps demonstrate the first problem of a worksheet. At home, his parents might need to similarly prompt him to get started on homework, to perform chores, or to go out with friends.

Peers can often help serve as models to help the student get started on tasks. Working in pairs or in small groups may be helpful, as the student's peers will serve as external cues. Cooperative projects may be most useful as the interaction with peers will continuously prompt the student.

Some children benefit from having time limits set for completing a task. Use of a timer may facilitate increased initiation and speed of task completion.

Many children with initiation difficulties are viewed as “unmotivated” or “lazy.” It is important to reframe the problem as an initiation difficulty rather than lack of motivation.

Problems with initiating may be exacerbated by the child’s sense of being overwhelmed with a given task. Tasks or assignments that seem too large can interfere with the student's ability to get started. Breaking tasks into smaller, more structured steps may reduce his sense of being overwhelmed and increase initiation. Difficulties with initiating are often a problem of knowing where to start. Providing the student with greater organization for a task and demonstrating where to begin and what steps to follow may help him overcome initiation difficulties.

Methods designed to increase overall level of arousal or basic “energy level” can be useful for children who have difficulty initiating on their own. Physical activity, group interaction, frequent short breaks with motor activity, and variation of pace or stimulation may be explored as means of increasing arousal and supporting initiation.

It is often helpful to provide examples or work samples that serve as a model of what is expected. The student can then follow the example to help cue what is next. Provide the child with realistic opportunities for initiating a task with appropriate wait time that allows for the child to “recruit” their plan and skill for the particular activity or task.

Provide appropriate supportive signals or cues that remind the child to initiate an activity (e.g., cues by caretaker, cues by devices such as alarm watch, personal digital assistant). Use natural cues whenever possible, including peers in social or academic situations when appropriate.

It is important to appreciate that different tasks place varying demands on the student's ability to initiate. Tasks that are inherently motivating often require less internal initiation than tasks that are less motivating. Similarly, more complex tasks may require greater initiation.

Those who work with the student should be aware of the natural tendency to do things for him, rather than support his own participation. It is important to support independent task initiation, thus avoiding the risk of “learned helplessness.” This requires a balance, however, as constant or repeated prompting may feel like “nagging” to the child.

Children who demonstrate difficulties thinking of ideas may benefit from learning a structured, systematic approach to idea generation. They can be taught idea generation strategies to help develop ideas for topics, for performing activities, or for ways to approach problems.

Providing “to do” lists on paper or index cards can be a method of developing automatic routines and can serve as external cues to begin an activity. Some children benefit from keeping a binder or “cookbook” with lists of steps for each activity. They can look up a page with steps for completing a specific task, and use the list to guide their activity.

As with any executive difficulty, it can be helpful to increase the student's awareness of his difficulty with initiation. As he becomes metacognitively aware of his own difficulties getting started, he can then participate more actively in using strategies.

Learning activities that increase motivation or arousal can support better initiation. The student might benefit from more interactive, hands on, or laboratory learning activities rather than desk work. Active learning methods can be interspersed with more sedentary methods to spark higher levels of motivation and arousal.

Topics or activities that the student finds particularly interesting will likely lead to greater initiation ability. Help the student find topics or methods that are of interest for projects and assignments.

Computer-aided instruction can be a useful means of increasing arousal and initiation. Many educational programs include regular or continuous prompts that will supplant the student's need to initiate on his own.

5. Working Memory

The key here is to design a way to help the child store information in memory. This may include developing a more readily retrievable location, such as a calendar (for events, tests) or notebook.

Storage devices include the following: agenda books or calendars, notebooks and even electronic devices (e.g., PDA, ipod, cell phone). Cuing devices include arranging for verbal reminders (e.g., from the teacher, parent, peer), alarms on watches, visual cues displayed in a prominent place (e.g., post-it notes).

Another big problem in this area involves getting kids to write down their homework assignments. They may need to be checked before they leave school.

Keep external distractions to a minimum to get the child's full attention. When possible, have the child repeat back to you what you've just said (e.g., maybe part of what you are reading).

Prompt the child frequently to check their schedule or look at the reminder list or check list. Consider using a reward for remembering key information. Rewards and penalties work best when the child's working memory is only mildly underdeveloped. As I mentioned earlier, if it is significant, punishment will probably make things worse. Then you have a child with poor working memory who's resentful and feels misunderstood.

The rate of instruction for new material may need to be modified. New information or instructions may need to be kept brief and to the point, or repeated in concise fashion.

The child may need additional processing time. Moreover, children with working memory deficits often need tasks or information broken down into smaller steps or chunks.

Changing from one task to the next sooner may help restore their focus for brief periods of time. If possible, rotate tasks. For example, they can work for 10 minutes on math problems, 10 minutes on reading, and then return to math for 10 minutes.

These children need short breaks. It's best to give them a motor activity or relaxing activity. Have them walk to the pencil sharpener, run a short errand, or get a drink.

Lengthy tasks, particularly those that can be tedious or monotonous, should be avoided or interspersed with more frequent breaks or other more engaging tasks. Maybe you can reward with a more stimulating activity such as computer instruction time for completing a more tedious task.

Preferential seating can be useful. Placing the child near the teacher can help the teacher detect and redirect the child when they are fading.

Preteaching the general framework of new information and guiding attention to the student for important points can be an essential tool for circumventing working memory difficulties when they interfere with the ability to capture new material. The student might meet with a resource teacher or aide at the outset of each day and preview the gist of what will be learned that day.

Establishing eye contact with the student prior to giving essential instructions or new material will help ensure that he is ready to listen carefully. Children with working memory difficulties often need to be alerted when essential material or instructions are being presented.

Teacher “check-ins” can be an efficacious method of providing a break with motor activity and an opportunity for reinforcement. The student might be asked to complete only a few problems of a set or a few lines of a paragraph before bringing his work to his teacher or his parent for review. This provides a built-in break that the student can anticipate, forces a stepwise approach to the task, includes motor activity, and an opportunity for reinforcement for work completed.

Often children with working memory deficits also exhibit word and information retrieval difficulties. They frequently experience the “tip of the tongue” phenomenon, or may produce the wrong details within the correct concept. The student may need additional time to retrieve details when answering a question. Cues may be necessary to help him focus on the correct bit of information or word. It is often helpful to avoid open-ended questions and to rely more on recognition testing which does not require retrieval.

If the student answers an open-ended question incorrectly such as a “fill in the blank” or short answer question, it will be important to follow-up with increasing levels of questions to determine whether the student knows the information. Offering cues for the missed response, then following up with recognition format questions will clarify whether the student missed the answer due to retrieval difficulty or whether he needs to relearn the material.

Children with working memory difficulties often benefit from multimodal presentation of information. Verbal instruction can be accompanied by visual cues, demonstration, and guidance to increase the likelihood that new material will be learned.

Many children demonstrate a natural tendency to use “self-talk” or verbal mediation in order to guide their own problem-solving and to direct their attention. Such verbal mediation strategies might be encouraged or taught directly. Initially, the student might verbalize aloud with supervision as he steps

through a task. Eventually, talking aloud can be minimized such that the student relies on subvocalization or only a whisper to direct his focus.

These students have difficulties keeping track of more than one or two steps at a time. Providing a written checklist of steps required to complete a task can serve as an external memory support and alleviate some of the burden on working memory.

The student can learn how to actively listen, such as stopping what he is doing at the time, focus his attention, ask questions, restate the information or question, or take notes.

Mnemonic devices (i.e., memory strategies) are important tools to help children learn, and later recall, basic skills and facts.

Spaced practice is more effective than massed practice. That is, the student would benefit more from practicing new skills or information in short sessions over the course of the day rather than in one long session. He might rehearse, for example, a set of key facts for a few minutes two or three times during the school day, and then again at home both at night and in the morning.

6. Time Management

This involves the ability to estimate how much time one has, how to allocate it, and how to stay within time limits and deadlines. It also involves a sense of the passage of time. Children with AD/HD struggle here. This includes: planning how long it takes to do an assignment, how long it takes to get ready to do something, or even how long one is actually working on task for.

AD/HD makes you live in the now. What does that mean? It means you will not get ready for the future until it's here. AD/HD creates a nearsightedness to the future, a temporal myopia, so that the individual is always waiting until the event is here, imminent, before they do anything to get ready.

Use of a planner or agenda book is the simplest way to make the passage of time more salient. The earlier we get kids using them, the better. A planner and an egg-timer may be the best investments a parent can make.

Teachers and parents can reinforce the use of a daily planner. Color the days, the assignments and make going to this book fun. Get the child used to planning today what is coming up tomorrow and next week.

Put a schedule or time chart on the wall in the classroom. Prompt students to write things down at the moment (e.g., when the assignment is given vs. delaying). Impose time limits and provide reminders for how much time is left during quizzes and tests.

At home, a large calendar with upcoming activities can be displayed in a prominent spot (e.g., kitchen). Parents and child can review upcoming events such as tests, projects, etc. in the morning and evening.

Teachers and parents should use cuing devices such as clocks, bells, or alarms. Give them an activity (e.g., class work, homework) and then serve as a coach. Have them estimate how long they “think” an activity will take. Then, time the actual activity. Let them see how their estimates are off or on!

Some kids have too much on their plate - too many activities. Parents should prioritize their child’s activities.

Externalize time as much as possible. You need to think about AD/HD and about life in general as a three-part system. There are Events, there are Responses to the events, and there are the Outcomes that occur as a result of those responses. “ERO” for short. As long as the E, R and the O are right next to each other in time, kids with AD/HD respond fine typically. The minute you put a time lag between the E and the R and the R and the O, they are negatively impacted.

Think about what the education system typically does. Educators put hours and days between those E’s, R’s and O’s. For example, Johnny’s English teacher says: “Johnny, I want you to do a book report on Romeo and Juliet (E). Your report is going to be due in three weeks (R).” “It’s going to take me two weeks to grade all the papers before I can tell you how you did (O).” We just put three weeks between an E and an R and two weeks between an R and an O. If possible, get those E’s and R’s and O’s close together to assist the child with AD/HD.

7. Planning

As with most interventions for executive function difficulties, increasing external structure to learn what supports are necessary for success is important at the outset. The amount of structure needed for planning successfully can then be decreased or faded gradually as the student’s ability to manage his own planning needs increases and as he assumes greater independence and responsibility in this domain.

It is often helpful to provide examples of how students might plan differently to complete the same task. In this way, the student can see options for alternative methods.

Children with difficulties planning may benefit from having a binder or list of the steps for common routines or assignments. They might have a section for approaches to specific types of math problems, writing assignments, or reading materials and can reference the plans as needed.

Involve the student maximally in setting a goal for the activity or task. Encourage him to generate a prediction regarding how well he expects to do in completing the task/activity.

The use of a planning guide may be necessary to reduce the organizational and working memory demands of this multistep process. Have the student verbalize a plan of approach at the outset for any given task, whether it is an everyday chore or routine or it is an academic activity. The plan can be broken down into a series of steps, arranged in sequential order, and written down as a bullet list. The plan can be guided interactively with his parent or his teacher to achieve sufficient detail and to increase the likelihood of success.

The child might be asked to develop more than one plan for a task or activity in order to increase his awareness of alternative approaches. For example, he might plan to approach a writing assignment by starting with the introductory paragraph, but might also plan to start with a detailed outline and to write paragraphs for the body of the text first, then write an introduction.

It may be helpful to begin learning strategic planning by practicing with only a few steps at the outset, then increasing the number of steps and the amount of detail gradually.

Developing plans for meaningful, complex activities (e.g., his own birthday party, baking his favorite treat) provides inherent motivation for the child.

Teach the child to develop timelines for completing assignments, particularly for long-term assignments such as projects or term papers.

The child may need assistance in budgeting his time to complete each step or phase in larger projects or tasks. Break long-term assignments into sequential steps, with timelines for completion of each step and check-ins with the teacher and parent to ensure that he is keeping pace with expectations.

8. Organization

Present information in a well-organized manner at the outset. A child with difficulties grasping new concepts or the gist or framework of new material often does best when the material is presented in a structured fashion. Teachers that offer a higher degree of structure in their courses may be a better fit for the student.

A guidance counselor, resource or special education teacher may need to serve as the communication facilitator between home and school in order to help the student stay on track with his assignments. Often communication can be accomplished via an assignment or planning notebook, but more direct communication via e-mail or phone can be helpful on a regular basis.

An assignment sheet or organizational or “home-school” notebook can serve as an essential tool in helping the student keep on track with his work. Before leaving each class, the student might show his teacher what he has written down as an assignment. The teacher can initial the assignment to indicate that it is correct and complete. The student's parents can then review the assignment with the student, help him plan an approach, and initial that each assignment has been completed. Should the student not turn in his work, this communication device can uncover the problem more quickly.

Keeping an extra set of books at home can be a powerful tool for helping a child with organizational difficulties, as it alleviates a need to remember what books to bring back and forth and provides ready access to materials both at school and at home.

Given the particular difficulty managing complex, long-term assignments, students with organizational difficulties often benefit from working on only one task, or one step of a larger task, at a time.

Tasks may need to be broken down into smaller steps in order to facilitate organization and planning. Long-term assignments, such as term papers or projects, may feel insurmountable for children with organization and planning difficulties. As such tasks can feel overwhelming, they may not begin work until the night before the assignment is due. It may be necessary to break down longer assignments into smaller, sequential steps, and to develop a time line for completion of each step. At each step, it is important to review what has been accomplished and to plan for the next step.

Worksheets or deskwork may seem overwhelming for the student and he may need additional structure to get started. Worksheets can be separated into smaller problem sets, or divided on the page with a marker and prioritized for approach. Have the child use colored folders to organize this information.

Study skills classes are often available in middle schools and high schools. Children with organizational difficulties should avail themselves of the opportunity to approach planning and organization as an academic subject.

The child may need extra organization time at the outset or the end of the day. He might review his assignment notebook or planner with his parents each morning and perhaps with a designated teacher at the end of the school day.

In some cases, having a study period at the end of the day in a resource room where access to a special education teacher is readily available can help the student stay on track more successfully. Children with organizational difficulties can benefit from working in small groups with more organized peers who serve as models.

Teachers can call to the student's attention the structure of new information at the outset of a lesson or lecture.

Preview the organizational framework of new material to be learned in a bulleted or outline format to increase appreciation of the structure and enhance the child's ability to learn associated details. It may be helpful to provide an outline or the student of major points prior to the lesson.

Have the child restate the overall concept and structure of the information or task following a lecture. This will provide an opportunity to ensure accurate understanding as well as an opportunity to correct any misunderstanding.

As the child becomes more aware of his difficulties grasping organization of new information, he may be able to learn to search for the organizational frameworks inherent in novel material. He might be taught to listen or look for the structure in a strategic manner.

Students with difficulties keeping track of their assignments may benefit from learning to use an organizational system, schedule book, or daily planner. Use of such a system can help facilitate many aspects of organization and planning, but requires effort on the part of the student, parents, and teachers. Many teachers prefer different organizational and planning systems. This can be confusing for children with organizational difficulties. It is best for the child to learn one system

that is sufficiently flexible to be used for all or most subjects and can be maintained or expanded as needed over the years.

Flexibility is the key to a successful organizational notebook or planner. Ring-bound books that allow addition of pages or features (e.g., sticky note pads, computer disk holders) and removal of unnecessary pages are often best.

Essential information can be written or typed and placed in a plastic sheet protector at the front of the book for quick access. This might include important phone numbers, locker combination, and overall schedule.

There are many options for ways to organize material including by date, by subject, or by priority. Deciding on one method and devising a system, such as separate color-coded tabs for each subject, is important.

Often children with organizational difficulties are inconsistent in completing homework and/or turning in completed work. This may be a problem of remembering assignments or writing them down accurately. It may be helpful to maintain a list of students in each subject with phone numbers that the student can call if he forgets an assignment.

9. Metacognition or Monitoring

Provide the child with opportunities for self-monitoring his task performance and social behavior. Provide cues, as subtly as possible, if necessary.

Often, children with difficulties monitoring their output do not recognize their own errors. It may be helpful to build in editing or reviewing as an integral part of every task in order to increase error recognition and correction.

Setting goals for accuracy rather than speed can help increase attention to errors. Reward the student for accuracy to support continued focus on monitoring his work.

Ask the child to predict how well he will do on a particular task, then compare his prediction with the actual outcome in order to increase his awareness of his strengths and weaknesses.

Encourage the child to chart his performance and/or behavior in order to provide a tangible record of activity for ongoing monitoring.

Verbal mediation can be a useful tool for helping children direct their focus to their own behavior or work. The student might benefit from talking through a

task, as this can increase attention to the task and, secondarily, increase error recognition. Model, cue, and encourage the use of the phrases “What works?” and “What doesn’t work?” as self-monitoring tools.

A social skills group may be a helpful venue to increase the student's awareness of the impact his behavior has on others. This can provide not only direct skill training but also an opportunity for helpful feedback from a counselor or peers in a safe setting.

Children with self-monitoring difficulties may not be able to consider the impact of their behavior in the immediate situation. It may be helpful or necessary to discuss or review behavior removed from the situation and from peers.

Provide guided and constructive feedback (teacher, parent, and peer) to increase self-awareness of strengths and needs for similar future activities.

E. Conclusion and final comments

AD/HD may not be curable but it is most certainly manageable. Educators and parents need to work as a team in order to effectively assist children with AD/HD.

Assuming that the child has been properly evaluated and diagnosed, this child will have a great chance of experiencing success. We must always start with proper evaluation. It is the first step in treatment. Comorbid conditions must also be addressed. If the child has AD/HD and a learning disability, anxiety disorder or depression, interventions will need to be modified to address all management needs. I believe psychologists are the most qualified to make these determinations once medical conditions have been ruled out.

I tell parents and teachers to learn as much as they can about the AD/HD. You have got to piece it together to get a broad understanding of this disorder, because from understanding comes compassion.

Additionally, medication works and has to be considered as part of a multimodal treatment package. Fifty years of research supports the use of medications as an adjunct to behavioral and educational supports. When in doubt, consult and ask questions of your school team or outside consulting professionals.

What about referring to the Committee on Special Education (CSE)? The CSE referral should be the last resort after pre-referral strategies have been attempted. When all methods and strategies, including a 504 accommodation plan have been attempted and the child is still not finding success, a referral for special education is necessary. With the addition of a resource room daily, closer supervision, or a

smaller class, the child has an even better chance of finding the pathway to success.



Feel free to contact Dr. Volpe at (631) 821-7214 or drvolpe@eepservices.org for further discussion or to obtain more information about assessment and treatment services available at East End Psychological Services. East End Psychological Services offers the most comprehensive, scientifically-supported services available for AD/HD on Long Island.