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## Attention Deficit Hyperactivity Disorder

Lots of controversy exists on ADHD. The condition may be over diagnosed, under diagnosed and misdiagnosed. But, the disorder is real. There is evidence of it in the professional literature dating back to when George Washington was president in the late 1700's. The name has changed many times over those years. But the underlying problem has remained pretty consistent through out all that time.

ADHD does take a toll on a person's ability to function at their potential. Academic, social, occupational and financial prices can all be paid because of it. It can be treated fairly effectively, although there is no cure for it at this time.

### The basics: Diagnosis

When I am asked about the possibility of ADHD being a diagnosis for a child or adult, I look to 'the duck test' to figure out what is happening.

*If it looks like, walks like a duck, and quacks like a duck, chances are it's a duck.*

What does this mean relative to ADHD?

First is the history of what has been happening over the years. Technically speaking, ADHD has to have been an issue since the early grade school years of life. If a person had no problem with attention back then, and all of a sudden in later years, such as in their teens, twenties or beyond the problem has surfaced, that is not ADHD. Attention can be impaired by any number of factors beyond ADHD. These may include:

- ❖ depression
- ❖ anxiety
- ❖ stress
- ❖ medication side effects
- ❖ traumatic brain injuries (TBI's) such as from being in a car accident or from sports related blows to the head like concussive episodes or 'getting dinged'
- ❖ strokes
- ❖ the effects of alcohol or drug abuse

When the person in question is currently a young child, such as in grade school, it is fairly easy to get a history as to how they have been, such as from kindergarten or 1<sup>st</sup> grade up till their present. Parents are usually available to offer such information.

I have encountered many parents who asked to be worked up for a possible diagnosis of ADHD after their own children have been found to have the disorder. ADHD has a major genetic component to it. 'Apples don't fall too far from the tree' and so if the child has it, the chances are that at least one of the parents does too. Few adults of the current generation were diagnosed back when they were in school, because the times were different. But, an undiagnosed problem can still cause problems.

With older individuals, such as someone in their 30's or beyond, getting that early history is at best very difficult and in my experience, usually impossible. Memory is quite fallible, and when someone has to remember what they were like 20-40 years ago, accuracy is highly unlikely. Plus, asking an adult to reflect on what they were like as a child creates its own problem of distortion. Kids have no reference to understand what is 'normal' or not. The adult's parents are seldom available to me to question. And even if they are, they too are subject to the same problems, of trying to remember specific details from decades ago. So, strictly speaking, making the diagnosis is not as certain when dealing with adults using current diagnostic criteria. In simple terms the situation might be likened to having two of the three facets of the 'duck test' present, and the third being unknown. Not as certain, but even so it can offer fairly convincing evidence.

What follows below is written in the nomenclature of children. It applies to adults as well, but again, it may not be as clear cut. So to keep it simple, it will be written as addressing kids, and issues more specific to adults will be addressed later in this paper.

What kind of history am I looking for? Some common complaints include:

- ❖ being highly distractible so that extraneous stimuli captures a child's attention and hijacks them away from what they are supposed to be paying attention to.
- ❖ a short attention span. Parents almost inevitably report that their child can pay attention to some stuff that they enjoy a lot, such as watching video games or television. Tasks that are not so pleasurable, like listening in school, doing homework, or reading a book, inevitably hear that the child has little to no focus. How long a child can attend to such matters varies. But I most commonly hear it is perhaps 5-10 minutes, with the wider range being from about 1-20 minutes.
- ❖ homework is a particular problem that parents report to me since it is a daily struggle witnessed in the home. Most parents I meet tell me that they sit with their child to try and help maintain a focus. And even with such effort, kids typically take two hours or more to do perhaps 15-30 minutes worth of work. A smaller percentage of parents will tell me of the opposite experience – where kids rush through it far too fast, spending maybe five minutes on what really needs a half hour to do well.
- ❖ bopping around from one task to another without finishing much if anything in the process. Kids will do a few minutes of this, and then a few of that, but they can not see anything through to completion all at once. A common complaint is that a child may read a paragraph or two, or at most a page or so of a book before losing their focus. The ability to read chapters at a time, be it something like Harry Potter or textbooks for school, is seldom heard. There are exceptions, but they are a distinct minority.

- ❖ disorganization. There is a nearly universal complaint I hear, especially from mothers, about their child being very messy such as in how their bedroom is kept. Let's face it: kids are sloppier than adults. So, this complaint by itself is not that valuable to me, since I have no way to know if the child is 'average messy' or 'worse than average messy' or 'better than average messy.' But, disorganization is still a common problem and it may be more effectively communicated by noting if the kid is constantly losing personal items. The one I hear of most often is homework, where the assignment is done but not turned in. Many parents tell me that their child is doing the homework, knows the material, but is being marked down for not getting it turned in to the teacher because it has been forgotten, or stuffed in to a book bag or locker. Lower grades including F's result, even though the child may be bright. Other lost items may include textbooks, house keys, wallet, watch, jewelry etc. If such items are being lost, are they found in a few seconds or minutes, a week or a month, or gone for good? Are multiple versions of the same item (e.g. five watches in five months) being lost?
- ❖ fidgety and squirmy behavior, or 'always on the go' is another common feature, especially for boys. Kids who get up and walk around the classroom while the teacher is talking is a common complaint I hear from parents and school. Not being able to sit for more than a few minutes of homework without moving around is another. A fair portion of kids can not even sit still to watch a favorite television show, such as a half hour sitcom. Some mothers have told me that during pregnancy they thought their child was hyperactive. "It felt like they were climbing on a jungle gym!" A warning to heed: the absence of such hyperactivity and fidgety qualities in a girl is not necessarily indicative of ADHD being absent. Hormones make a difference. Plus, girls are taught from day one to be 'little ladies.' 'Boys will be boys' is a very different way of being raised, and their behavior is far less controlled by parental demand. i.e. Girls tend to have the inattentive elements of ADHD, and often are not showing the hyperactive/impulsive ones. Even so, ADHD is still present, and can take a toll on them just as it can on boys.
- ❖ social abilities are often affected. Part of growing up and maturing is learning how to get along with other kids. Listening quietly, taking turns, sharing, and being patient are all involved. Such skills are typically not the forte of ADHD kids. Consequently many have problems with making and/or keeping friends. Many parents will tell me that their child gets along with other kids. But, usually what parents are thinking about is playing a board or team sports game with other kids and getting along okay. When I rephrase the question to 'Does your child invite others over to your home?' Or, 'does your child get invited over to other kids for birthday parties and the like?' Or 'Does your child seek out other kids on the weekends?' what I typically hear is 'no.' Research suggests that 70% of kids have no friends by the time they reach 2<sup>nd</sup> grade.

Another common complaint I hear from parents is that the problem has persisted for years, and everything that has been tried to date has failed. Tutors, special ed in school, punishment, reward systems for doing well, extra supervision at home such as while the child is doing homework have all been tried. Nothing works.

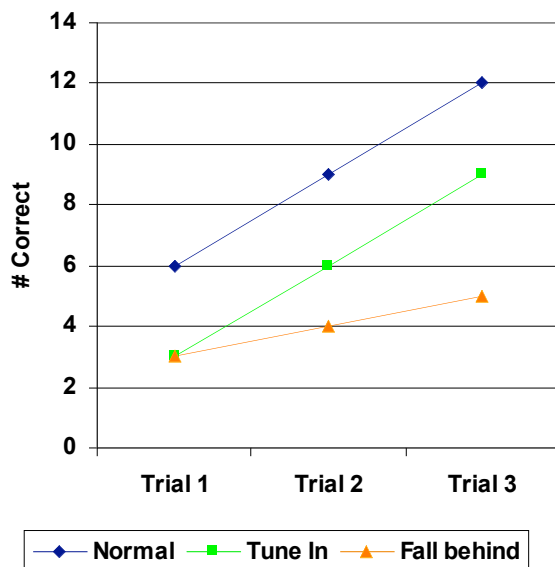
I also hear that teachers typically are raising a concern about possible ADHD, often from an early age such as first grade. At the least, they are concerned about a child 'not being able to focus' or 'always being on the go' in the classroom. Teachers are smart when it comes to kids'

behavior. They see scores if not hundreds of children in a year's time, and over their career. They have a lot of experience in knowing what is normal behavior for a child and what is unusual. So, I listen closely to what teachers say, and give them a lot of respect for their insights and thoughts about how a child is behaving in school.

The 'second duck' I look for is behavior in front of me. I have seen kids in my office who were sliding down their chair, crawling under my desk, diving off the chair's arm, or literally walking in to walls intentionally and playfully bouncing off them. That's hyperactivity. However, there are a fair portion of kids who will sit quietly, and be very polite and well behaved in my office. The parents and teachers tell me the child is out of control. What's happening? Being in a doctor's office can change some kids. They may be more inhibited and restrained, anxious or intimidated. So, if poor attention and/or hyperactivity is witnessed by me, I take note of it. The absence of such behavior is not proof of anything. False negatives are always a possibility.

The third duck is formal test results. There is a myth going around that 'no test can assess for ADHD.' Not true. There are a number of psychological tests which can assess for problematic attention. No test can *diagnose* ADHD. But, no test can diagnose breast cancer or diabetes. Have you ever heard a drop of blood, or mammogram radiograph speak? Tests offer pieces of information. A doctor needs to think about and understand such information, based on training and experience, and to make the final diagnosis of what is occurring in the individual.

Tests can be employed to look for different facets of what may be ADHD. Short term memory is typically poor, as was just noted, because learning is not occurring as it should. Information can be presented several times in a row, and a 'learning curve' plotted out. How well does a child 'tune in' from the outset? How much progress do they make over several trials? How much information is retained over time, such as an hour or a day, so that it has a chance to get shunted over to long term memory?



Kids with ADHD typically do not 'tune in' well. Say something to them, and they come back with "What?" or "Huh?" Some make average progress – but having started from behind they never close the gap. Others start from behind and then make less than average progress. So they fall still further behind.

The graph to the left offers examples of both of these patterns. The graph illustrates how many items are correctly answered out of a hypothetical task involving fourteen problems. The particular graphs shown are meant to be representative. That is, someone with ADHD does not have to match these graphs precisely.

Still other tests that I employ assess for what are called ‘frontal lobe’ or ‘executive skills.’ Executive skills include abilities such as:

- ❖ being able to conceptualize an idea
- ❖ being able to figure out how to organize and plan, to bring such an idea to fruition
- ❖ then being able to ‘get in to gear’ and go from the thinking to the doing stage
- ❖ being able to persist as needed on such a task, and ‘staying in gear.’ Kids who quit prematurely, such as from high frustration, probably have problems with this element.
- ❖ once something has been started and persistence has occurred, being able to look for, catch and correct mistakes in a timely manner. That is, ‘getting back on track’ when errors do occur.
- ❖ once a task has been completed, realizing this, and knowing that it is time to stop. ‘Beating a dead horse’ serves no purpose.
- ❖ being able to behave as needed and expected. Acting like ‘a bull in a china shop’ is not well tolerated. The more common analogy I use is ‘the screaming child in the grocery store’ such as little kids who want candy in the check out line. Little kids may get away with such behavior. Older children, such as adolescents and teens, and definitely adults, can not yell, scream, have tantrums, or otherwise behave inappropriately for long in any setting without paying some stiff consequences.

Kids with ADHD typically have very poor executive skills. I already have mentioned disorganization being a common complaint of parents. The impulsivity, hyperactivity, fidgeting and squirming, and ‘bouncing off the walls’ are also illustrations of the last bulleted point noted above, where behavior is outside of societal expectations. Kids who bop around and have inadequate attention span are probably having problems with the ‘staying in gear.’ Distractibility, and minimal attention span may involve the ‘inability to get in to gear’. There are questionnaires that I employ that assess for such issues. And formal tests also can be administered which are designed to evaluate for these types of difficulties.

I also look for a ‘fourth duck’ to make the diagnosis of ADHD. What else might explain the current problems a child is having?

- ❖ Depression?
- ❖ Anxiety?
- ❖ Autism or Asperger’s?
- ❖ Brain injury such as from car accidents, or ‘getting dinged’ playing sports?
- ❖ Alcohol or illicit drug abuse?
- ❖ Traumatic experiences (incest, rape, death of a parent, etc.)?

These ‘four ducks’ give me a lot of evidence, and allow me to diagnose whether or not a child has problems with ADHD. Nothing is perfect in life, and this method is not fool proof. But, it does have a high accuracy, and errors are few in my experience.

### Why does ADHD matter?

There are some who say that ADHD is actually a more functional state. It may allow a person to multi-task, and not just focus on a single issue at a time in more mundane and boring ways. Modern life is certainly fast paced, and few people, especially adults, can afford not to multi-task throughout the day. One father who had been diagnosed with ADHD, and had his son in to see me for such a possible diagnosis, said that his using medication for ADHD allowed him to better handle “the administrivia” of life. Needless to say, he did not think much of administrivia, and preferred to be more creative, and free-thinking. So, he no longer was taking the ADHD medication that had been prescribed to him.

What I more commonly hear from ADHD individuals, or their parents or spouses, is that they are not functioning well. With kids, grades are usually very poor. C’s and D’s, or D’s and F’s are being made. A modest percentage of kids with ADHD can still make A’s and B’s – but they do so at a tremendous price of energy and time. One college student with ADHD, who made such high grades, told me that she had to write ten drafts of a term paper to accomplish what her room mate did in just one or two. And, she needed weeks or months to create what the room mate accomplished in a few days.

When ADHD medication is employed and is effective in controlling at least some of the symptoms, I usually hear that a child’s grades jump by at least two points, such as a D/F student becoming a B/C, or a C/D turning in to an A/B. A fair portion of kids I work with go from D/F grades to A’s and B’s. Moreover, IQ scores jump by an average of 10-15 points, which is a lot.

The medication is not making the person any smarter. Rather, what is happening is that the child is ‘no longer driving with the brake on.’ You can drive with the brake on – but an awful lot of energy is wasted in the process. That is, the child is not functioning up to their intellectual potential. Not living as well, and achieving as much, as one is endowed with by nature is a high price to pay. With very bright kids I liken this to ‘*an eagle clucking around on the ground like a chicken. Or flying like an ordinary bird. If you are an eagle, you ought to soar like one.*’

Parents also need to remember that the best time in life to get an education is as a child. It is very hard to go back to school, be it for a high school diploma, or a college degree, later in life when marriage, kids, a mortgage, and work responsibilities demand almost all one’s time.

Moreover, the human brain is most adept at learning skills for a relatively short length of time, and virtually all of this neurological window of opportunity is during childhood. Consider what the spoken language skills are of a 2 year old child, who can barely utter single words or just short phrases. Then look at a 6 year old child, in 1<sup>st</sup> grade. Vocabulary has exploded to thousands of words in those four years. Grammar and syntax have developed fairly well and far surpass a toddler’s “Me go potty.” Now consider the average high school student who tries to learn a foreign language starting in 9<sup>th</sup> grade. How much progress can such a student make between 9<sup>th</sup> and 12<sup>th</sup>, compared to the child between ages two and six? Far less. Why? The region of the brain that controls language is only neurologically open for a few years, from roughly the ages of two to perhaps eight or so. Past that point, it becomes far harder to pick up language once that region of the brain seals shut.

What is the message here? There is a need to fill the brain with knowledge and understanding when it is amenable to learning. Wait too long, and the ability to learn is greatly reduced. I most commonly see this in adults who are dyslexic. They never learned to read as a child, and were shoved through school. They repeatedly try to learn how to read as adults, and few ever succeed to any extent in my experience.

Most parents value education for their children. Anything that interferes with a child becoming educated during the formative years will exact a very high price for the rest of that person's life. What that says to me is that the unique opportunity, of becoming educated during childhood, should not be wasted. If ADHD interferes with education, take the necessary steps to treat it so that learning can occur. Arguing about creativity, multi-tasking, or administrivia misses the point. What matters is education. Make sure your child gets it while they can.

There are other serious down sides to ADHD. Research has shown that various problems occur far more often when ADHD is present and is not effectively treated. Generally the increased risk is a factor of 2-4 times greater incidence. These increased problems include:

- ❖ increased depression and/or anxiety, and decreased self-esteem and –confidence. It is tough to hear from teachers, peers, and parents ‘Why don’t you do better?’ Or, ‘Why aren’t you as smart as your brother?’ Or, ‘Why are you so dumb?’ Egos take a beating when D’s and F’s are earned for years on end. Or, from being a child who can’t learn to read. Or, from having few if any friends and feeling like an outcast, rejected by others. One third of ADHD kids in high school have thoughts about suicide. And about 16% of ADHD kids in high school make an attempt to kill themselves which is more than five times the rate of non-ADHD high schoolers.
- ❖ dropping out of school. Kids with ADHD often fail a grade, and that by itself substantially increases the risk of dropping out before finishing high school. One third of ADHD kids end up dropping out of high school. And high school drop outs suffer vocationally and financially in the years that follow.
- ❖ substance abuse. Nicotine, alcohol and illicit drugs (in declining order of risk) are the three classes that have been researched the most heavily with ADHD, and are found to occur more often with ADHD. A good percentage of kids in my experience try to self-medicate through such substances. They either try to calm themselves down (using sedating drugs, which includes nicotine). Or, they try to boost their attention up such as through drugs like amphetamine and cocaine. Such attempts always fail. The toll on health from smoking is well known. Alcohol can lead to arrests (e.g. DUI’s), which gives a person a criminal record. It can also cause car accidents leading to possible injury or death. Health hazards (e.g. cirrhosis, gastritis, pancreatitis, and damage to one’s brain such as for memory) also occur. Illegal drugs can have comparable effects – but at a greater price legally and toward one’s health.
- ❖ car accidents. Parents are inevitably concerned about a teen getting a license to drive. The rate of accidents for 16-17 years olds is alarming. Add ADHD to the mix of inexperience and the impulsive, risk-taking nature of a teen, and the result is a greatly increased potential for being in a crash. Research suggests that having ADHD behind the wheel is comparable to driving drunk. In the process your child and/or someone else’s

may be injured, maimed or killed. Even without medical risk, serious legal repercussions can occur.

- ❖ irresponsible sexuality, in terms of not taking adequate precautions. The net effect: unwanted pregnancy for girls. Or, there is increased risk for contracting HIV, AIDS, hepatitis and other communicable diseases for both boys and girls. Other consequences from unwanted pregnancy probably include dropping out of school, and loss of their own childhood from being forced too early in to parental duties. Then there is the emotional toll of an abortion, or putting a baby up for adoption. The toll put on others, such as the new grand-parents who may be forced to raise and pay for the grand-child. Or, financial responsibilities for the teen parent without the ability to meet them, and what that does to them as well as the baby in terms of probably living in poverty.
- ❖ increased risk of divorce in early adulthood, coupled with more difficulty in obtaining and holding a job, with implications as to decreased family stability and quality of life.

### Auditory Processing Disorder (APD)

APD is something I see in roughly half the kids I evaluate for ADHD, and research suggests that it is occurring at about that level. ADHD and APD overlap in symptoms, and look a lot alike. Consider the following:

Overlapping symptoms	APD symptoms	ADHD symptoms
Distractibility	Distracted by noise	Distracted by various stimuli
Inattention	Deficit in focused attention and filtering background noise	Deficit in focused attention and/or sustained attention
Poor listening skills	Auditory attention deficits	Attention deficits across a broad array
Restlessness	Less impulsive	Highly impulsive (more so for people who have the 'H' side of ADHD, meaning those who are hyperactive)
Frequently asks to have directions repeated; difficulty following directions	Poor sound localization	No problems with sound localization
Academic difficulties	Poor phonological decoding and listening comprehension	Error prone in math, poor reading comprehension and writing

There is some controversy about APD, and not everyone believes it really exists. One of the problems is that the tests that are used to diagnose are not as good as might be desired in certain technical aspects of their design. Another problem is that an exact definition of what APD is, and how to diagnose does not exist. And the standard diagnostic manual (DSM4) in psychology does not even recognize APD's existence.

Some of the factors that argue that ADHD and APD are different include the fact that only about 50% of people who have the former have the latter. Another is that the geographical areas of the brain that are involved with each disorder (the frontal lobe in particular for ADHD which is heavily involved with the aforementioned executive skills, and the temporals lobe for APD which is where language and verbal comprehension resides to a large extent), are different.

I am not an audiologist, and can only delve a little ways into APD issues. I use a quick screening test to assess for it when I suspect it is present; audiologists have far more sophistication in evaluating for it. As to treat it if APD is found, I can offer nothing whatsoever. From experience, I've found that audiologists will offer one of several approaches, depending on what the underlying cause is. Such treatments can include:

- ❖ for a small percentage, simply sitting closer to the teacher helps. As noted above, APD students are distracted by noise, and when the teacher's voice is louder, and they are farther away from other students who are making distracting noises, they can do better.
- ❖ for a small percentage, there is an actual hearing loss and a hearing aide is needed.
- ❖ On very rare occasion, I have heard of students who have had a lot of impacted ear wax, and they simply needed their ears cleaned out. Or, others have had an undiagnosed ear infection and it was serious, and needed to be treated.
- ❖ another approach is for the teacher to wear a microphone and have their voice broadcast over a mini-FM radio station in the classroom, with the student wearing some headphones tuned to that frequency. The net effect is that the teacher's voice becomes louder, and all the extraneous noises (e.g. other students shuffling around in their seats) are not amplified, so the APD child can better pay attention to what the teacher is saying.
- ❖ computerized training programs, like Earobics, and FastForward can be used by some, when so determined by the audiologist.. How they work is basically one of 'practice, practice, practice.'

It should also be appreciated that ADHD and APD influence each other. e.g. A student who is inattentive due to ADHD will not listen closely, and so verbal comprehension suffers. Conversely, if what is spoken to an APD student does not sink in quickly enough and/or fully enough, then the student is likely to become frustrated, give up, and tune out, and be inattentive. So, treating ADHD with medication can help with APD by at least making the child more attentive to what others are saying.

### ADHD & College

There are a fair percentage of students I see who manage to get through the earlier years of school without ADHD being diagnosed, but when they hit high school and particularly college, they suddenly seem to hit a brick wall.

My take as to why this happens is that they are quite bright, and were smart enough to get through elementary and junior high school years based on their intelligence. But the lower grades, especially in elementary school, involve a lot of what I call 'hand holding' by parents and teachers. I routinely hear of mothers who spend 1-3 hours a night sitting with a child so that they

can focus and complete 20-30 minutes worth of homework. And teachers write out assignments on the blackboard, and give them a sheet of problems like math or spelling to take home, and tell them to bring it back completed the next day. Higher grades, in high school and especially college, involve a teacher saying 'Pick a project, and turn it in three months from now.' That's it. If the student did not hear it the first time, or write it down, or remember, tough luck. What is worse, older students invariably procrastinate to the last day, and one student I saw actually waited until the last hour before a semester long project was due before he started to work on it.

What all this relates to is that raw intelligence is no longer enough to do well in school. Executive skills, like organization and planning, and the ability to initiate and persist, and to stay focused and on-track, become far more important and have a massive influence on the kind of grades earned. Such executive skills are hard hit by ADHD.

Research has been done with college student on this issue, and the findings bear out the weaknesses that such older students have which impair their ability to do well. Compared to normal (non-ADHD) students areas of weakness that have been found include:

- ❖ time management. This requires a student to prioritize, ration their time effectively, and recognize the many demands that exist in their day, and make sure that all the essential needs have adequate opportunity to be addressed. i.e. No more mommy who can force a student to sit down, focus, and crank out the homework. They have to do it for themselves, and they typically don't. Appointment books, wall calendars for tracking projects, other scheduling devices, and alarm clocks, tend not to be used or at least not well. The way to treat this problem is to teach such students how to use such aids and make better use of their time as a result.
- ❖ concentration. College students tune out, get distracted, lose their focus, and so do not hear what a professor is offering in class. Sitting in the front of the classroom, and taking notes may help. When on their own, such as doing homework, taking frequent breaks to avoid fatigue may also be a means to improve focus.
- ❖ selecting main ideas. ADHD students may study massive amounts of material, but it is all too often not the critical ideas that need to be learned. Consequently, they can become overwhelmed because they have not zeroed in on what is the meat of the topic. Moreover, by not having a good eye for picking out the critical concepts, they spend far too much time on the non-essential, which causes time management problems.
- ❖ testing taking strategies. This is similar to the point noted above. How one studies for an essay test is very different than multiple choice. Poor choices can lead to wasting time, studying too much and becoming overwhelmed. Interventions can include better note taking, underlining of key concepts, creating outlines and summaries, identifying potential test questions, and use of Study Guides that exist for some textbooks.
- ❖ motivation. ADHD students will all too often say to themselves, 'I really don't want to study for this test, it's too boring. Talking on the cell phone, playing a video game, surfing the net... is a lot more fun, so I'll do that, and get to the studying later.' Work before pleasure is a concept and goal that needs to be learned, which can be accomplished in stages over time. 'If I study for an hour I'll do some fun stuff for fifteen minutes.' That can progress to 'If I get a B or better in this class for the term, I'll treat myself by

buying a...’ And ultimately, a far more internal motivation can be created, ‘I’m going to learn this material simply because I want the pleasure of mastering it.’

These students do have the ability to learn and do well. But, far too often I’ve seen students in their late teens to late twenties who are failing semester after semester because of such problems as those described above. Such failure is very expensive in terms of money, wasted time, and their future and the more limited vocational opportunities that are likely to occur for being a college drop out. Plus, an individual’s ego takes a beating as to ‘Why can’t I learn? I used to be a good student, and now I feel so stupid.’ Once more, medication can be very helpful, but too often older students are quite resistant to the idea – only to their own detriment.

### ADHD & Adults

Let me address the issue of adults now. Some adults I see with 20/20 hindsight recognize that they probably had ADHD symptoms as a kid, but were never diagnosed. Others thought they did okay in their school years, but as adults have started to realize that they are having problems. Maybe their spouse has said something to them. Or seeing their own children diagnosed with the disorder has opened their eyes. Or, problems are coming out at work or other areas of their life, so that coworkers, bosses or friends are making comments that perhaps ADHD exists in them. Regardless which of the above scenarios may apply to you, the following thoughts are offered.

There have been two large studies on adult ADHD that were completed in 2007, and their findings were similar. In a nutshell: ADHD cuts a wide swath across the lives of adults, causing a lot of impairment. Moreover, there is zero benefit to the disorder according to this latest research. Talk of being better at multi-tasking, or being more creative do not hold up.

What were the findings? One of the studies said that the biggest hit is taken relative to education and school when compared against adults who do not have ADHD. One adult man I saw who had ADHD had spent fifteen years in college – and was just now completing a two year Associate’s program. The educational problems that arose according to this research included:

- ❖ being retained in grade
- ❖ receiving special education classes
- ❖ being diagnosed with learning disabilities or behavior disorders while in school
- ❖ high class ranking and grade point averages were significantly lower
- ❖ of those who attended college, more had unsatisfactory grades and had withdrawn from more classes
- ❖ weaker test scores in arithmetic, spelling, reading, and listening comprehension

Another major problem area that both research projects found to be present was occupational difficulties among adults with ADHD. Issues here included:

- ❖ getting along with others
- ❖ being fired
- ❖ quitting out of boredom
- ❖ being disciplined by supervisors
- ❖ being more inattentive at work
- ❖ being more impaired in performing assigned work

- ❖ being less punctual
- ❖ being less able to demonstrate good time management
- ❖ problems with managing daily responsibilities

A third problem area that ADHD adults have elevated problems with is in their behavior relative to breaking social and legal controls. This includes a higher rate of:

- ❖ shoplifting
- ❖ stealing without confronting a victim
- ❖ breaking and entering
- ❖ assault with fists
- ❖ carrying an illegal weapon
- ❖ selling illegal drugs
- ❖ being arrested
- ❖ being jailed

Still another area that is adversely impacted by ADHD in adults is money management. This includes common issues of:

- ❖ managing money
- ❖ saving money
- ❖ buying on impulse
- ❖ nonpayment of utility bills resulting in their termination of service
- ❖ missing loan payments
- ❖ exceeding credit card limits
- ❖ having poor credit ratings
- ❖ not saving for retirement

A fifth concern is driving. It is a legal privilege, not a right. It is also extremely dangerous, as virtually all adults appreciate. The numbers killed and injured on American roads every year are staggering; the figures are well known and will not be repeated here.

Research has been done on ADHD adults and their driving skills. What has been found includes:

- ❖ more variable reaction times
- ❖ more variable steering
- ❖ more impulsive errors
- ❖ greater inattention to the road
- ❖ more unsafe driving practices
- ❖ more road rage
- ❖ more traffic citations especially for speeding
- ❖ more likely to be in a crash and to be at fault for such a crash
- ❖ crashes more likely to be severe
- ❖ more likely to have a revoked or suspended license
- ❖ more likely to have driven without a valid license

- ❖ less ability to appreciate one's own driving skill accurately. The majority of people, with or without ADHD, over estimate their skill, thinking they are above average in ability when they are only average most likely. With ADHD adults there is a greater disparity between what they believe about their ability and what it really is.

ADHD medication can be helpful in reducing some of these risks.

What should you do if you have these problems, or if there is an adult ADHD person in your life you love such as a parent, spouse, or sibling? There are practical limitations, because they are legally adults, and can make their own decisions. You have no legal power over them, except in rare circumstances such as when power of attorney privileges have been given to you. You can try to talk to and persuade them to consider use of medication. But, there can be a fine line between being concerned vs. being perceived as a nag, which can be counter-productive.

The best advice I can offer is that my attitude toward most anything in life is 'Be educated.' What harm is there to simply seeking out more information, learning options, and discussing the pros and cons of using medication? Talking to a physician about medication is different than taking a drug. Have the person you love at least take the first step, and get the facts. Have them make a decision based on information rather than inaccurate beliefs.

### Treatment

For now, the only treatment for ADHD that has been shown to be fairly effective is medication. Does it fix everything? No, a fair amount of problems remain. Some of the executive skills in particular are not always helped by medication. What seems to benefit most is attention. Attention is the foundation for everything else such as academic learning. (Consider what the absence of attention looks like: coma, unconsciousness, being asleep, or stuporous. Can anyone learn under such states?) Side effects of medications are another real concern.

Consequently, medication for ADHD is far from perfect. But, I liken it to chemotherapy, surgery or radiation for the treatment of cancer. Are those good ways to treat the disease? If you or someone you know well has undergone such treatment, you know the answer is 'no.' But, what is better? Nothing for now. That is the problem with ADHD. Medications are not that good, but nothing else has been shown to be equally effective or better.

The side effects of ADHD medications vary with the drug used. Common complaints include loss of appetite and weight, which can be of greater concern for young children who are typically pretty skinny already. Problems with falling asleep are also heard, along with being more jittery. A modest percentage of kids I see lose what I call their sparkle of personality. They look more robotic, or are less animated and happy. The childhood joy, or youthful exuberance disappears.

I am not a medical doctor, and I never give advice on the issue of medication. All that I can say is that any physician, such as a pediatrician or child psychiatrist, may want to try different doses and types of medication to see if the right one can be found for your child. Some parents become upset over their kids being a guinea pig for such experimentation.

Sometimes there may be a bit of truth to such guinea pig labeling. But consider what you do when you first become an adult, and want to figure out which type of drug to use for a bad headache. Aspirin? Tylenol? Advil? Excedrin? Aleve? There is no way to know which will work best until you try each. You have a learning process by which you discover what works and what doesn't for you. Medical doctors are no different.

Research suggests that a small percentage of kids never respond well to any drug. Either the side effects are too troublesome, or they do not get the desired benefit. Most do respond reasonably well. With such response, behavioral complaints, such as from teachers decrease. Grades and academic learning go up.

What else is there besides medication? A few possibilities exist. Research on all of them is limited at best. None has been shown to be as effective as medication. All should be considered experimental. What are these methods?

1) Diet, additives and exercise.

- a) There has been talk dating back to at least the 1970's that too much junk food, and sugar in particular, is responsible for ADHD. This notion was disproved back in that decade, but it seems to be resurfacing now. There are some people, with ADHD or not, who are more sensitive to the effects of sugary foods. The phrase most often used to describe them is that they 'bounce off the walls' under the influence of sugar. Eating healthy and reducing sugar intake are virtues I will always support for anyone. Whether it will reduce or eliminate ADHD is another matter. Try it and see. At the least your child will lead a more healthy life for other reasons, such as avoiding potential obesity, diabetes, etc.
- b) Food additives, such as coloring, have been coming under question of late as to their potential role for ADHD. Research is minimal to date. Again, eating healthier food in a more natural and less processed state can be subscribed to for its own reasons, regardless of what it might do relative to ADHD.
- c) Exercise has been researched dating back at least to the 1970's as well. It usually is looked at relative to whether or not kids in school get phys. ed. classes, or how many hours per week they receive. Research has consistently shown that more exercise equals better academic performance in kids. Common sense applies here. e.g. Little kids should not be running the Boston marathon. That is, exercise that is appropriate for a child's age, undertaken with appropriate precautions and safeguards is always advisable. This also does not mean that a child can go run a lap around your block and POOF! their ADHD is permanently cured. Rather, it means that staying physically fit, throughout one's entire life time, is a desirable goal, and that better mental and physical health can be expected. Whether exercise will reduce or cure ADHD is not really known.

2) Vitamins, minerals or other natural supplements. The biggest proponent I know of for such an approach is Dr. Daniel Amen ([www.amenclinic.com](http://www.amenclinic.com)), who is a psychiatrist. He has written a book on the subject of ADHD and includes a chapter on alternative treatments, such as over-the-counter supplements. His research on ADHD is thought provoking in my opinion. It is by no means widely accepted in the mental health field. Nor is there much research behind the use of 'natural' supplements for the treatment of ADHD. Parents also need to keep in mind that 'natural' does not necessarily imply safe. Ephedra is probably the

best known recent example of a ‘natural’ substance that was used for weight loss, that led to serious health problems in some people such as heart attacks, seizures, or even death. If you are thinking about use of natural supplements you should always consult a medical doctor first.

- 3) Behavioral approaches. Research has found that behavioral methods, such as increased supervision, punishment, or reward systems do not work on their own relative to ADHD. That is also what I have heard for over twenty-five years in my own practice. Used in conjunction with medication behavioral methods may help some percentage of kids. Some behavioral approaches to consider using:
  - a) Act, don’t yak.
  - b) Use rewards twice as much as punishment.
  - c) Change rewards periodically.
  - d) Think of how you can create win/win scenarios for your child and you, so you both come out ahead.
  - e) When you use punishment, consequences need to be swift, and incentives are needed to not only stop the bad behavior but to get a good behavior to replace it.
  - f) Set your priorities; you can’t fix everything all at once.
- 4) Neurofeedback (‘biofeedback for the brain’). Biofeedback in general has been studied for many years, and has been found to be effective for a number of common mental and physical health problems. Neurofeedback is a variation on it, and involves using a stripped down EEG (‘brain wave’) machine. The idea behind it is that medication for ADHD involves the concept of changing the brain’s chemistry to make it function more effectively on an electrical level. Neurofeedback skips that intermediate step, and in essence says ‘Change the brain’s electrical functioning directly.’ What some research has found is that individuals with ADHD often have a brain wave that is reflective of being nearly asleep. That is, their bodies are awake, but their mind is almost somnolent, which makes learning all but impossible. Neurofeedback employs video games (the ones I’ve seen have no ‘blood and guts’ but are more like Pac-Man). The game is controlled purely by brain waves, and not a joy stick. The ‘right’ (more alert) brain waves earns points. The wrong (nearly asleep) brain waves loses points, or earns nothing. Limited research to date has been done on this technique. Most research has been of poor quality, such as anecdotal studies, or only with small numbers of people. The little quality research that has been completed generally has not found it to be effective. Even if the technique is effective, there is also the question as to whether the effect lasts after the neurofeedback session ends. It is also considered experimental, and consequently insurance companies may not pay for it. Cost is typically over \$4,000. for the complete package. Treatment can run from 2-6 months, with several visits a week required. In my opinion, the concept of neurofeedback is appealing. But proof of it actually working is limited.
- 5) Acupuncture. It is a form of treatment that dates back thousands of years. Western medicine has been researching this form of treatment for several decades now, and generally finds it can be effective for a number of problems. Whether ADHD is among them is not as clear. Again, research is limited as to its effectiveness. Insurance may not pay for it.

- 6) Eliminating video games. Much like television, video games are often considered not only a waste of time but also cause kids to become at least temporarily too aggressive. The extreme 'blood and guts' of many video games have made big headlines in recent years, and there is a continuing controversy as to whether they actually cause an increase in violence. The debate on television and violence has yet to be fully settled, and it began in the 1960's. So, the verdict on video games is still out. There is some research that video games can cause ADHD like problems. Computerized brain imaging has been done on people who were playing video games. What was found is that an area of the brain called the basal ganglia is activated during such games, and dopamine, one of the brain's chemicals, is released in the process. Dopamine is involved with a number of brain functions, including attention span, focus, and motivation. It is thought that the video games effectively use up the dopamine for awhile, and so it is not available when needed such as for doing homework. In my opinion, playing video games is like eating junk food: they may be fun, but there are better, more wholesome choices available. Reading, playing, or socializing with other kids in various ways are all better than video games in my opinion. Whether cutting down or eliminating video games from your child's daily routine will make a substantial difference in ADHD symptoms can only be determined by trying it. And enforcing the rule can be difficult, given that you may stop the game playing at your house, but not elsewhere such as at a friend's.

### Summary

ADHD is a real problem. It affects a large number of people. Estimates vary as to its frequency, but typically range between 3-6% of the population. ADHD has consequences, in terms of poor performance in school. Behavioral, social, occupational and financial consequences are also possible.

Many parents I speak to are leery about using medication. There is still a lot of controversy about how safe such drugs are in the short term. Long term consequences of such drugs are even less well known. I am reminded of hormonal replacement therapy (HRT) for post-menopausal women, and how it was widely touted by medical doctors for decades. Only in the past few years was it learned that HRT does more harm than good. So, the jury is still out on the safety and effectiveness of ADHD medication, and risks do exist if they are used.

The one point that all parents need to keep in mind is that every choice that is made, or avoided, carries a risk. That is, you know that your child with ADHD is having serious problems. Doing nothing will change nothing. It is your responsibility as a parent to try and do the best you can to help your child develop and grow. What choice you make as how to treat ADHD is your decision.

I hope this article has helped to further educate you on some of the issues of ADHD. The next step is yours to make.