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DIAGNOSIS

Understanding ADHD in Youth

Bruce H. Robinson, MD, FACS, MSOM (Hon)

Attention deficit hyperactivity disorder (ADHD) is the most common learning or behavioral problem in the country, and the incidence of children and teenagers with this diagnosis has been steadily rising in the past few years.

About 15 percent of children and teenagers in the U.S. are currently receiving Western medical treatment for this condition. However, it is likely that ADHD is tremendously over-diagnosed (*Haber, J.S. ADHD: The Great Misdiagnosis. 2003*). Hyperactivity and excessive energy are a normal part of childhood, yet vast numbers of school students have been put on medications to quiet them down and make them more cooperative or docile. Besides this, many other conditions masquerade as ADHD when they are really something else. Studies suggest the actual incidence of ADHD is about three to five percent of children, and boys are more often affected than girls.

The three most commonly-used Western medicines for treating ADHD are Ritalin (methylphenidate), Dexedrine (dextroamphetamine), and Adderall (multiple salts of amphetamines). These three drugs are all stimulants in adults, yet they have a curious reverse effect in hyperactive young people, enhancing the concentration of the neurotransmitters dopamine and norepinephrine. These chemical amines turn on the children's inhibitory impulses in the brain, thus paradoxically stimulating them to become less hyperactive and, as a result, more calm and focused.

Since these medications work so well in quieting down children and adolescents, there has been a temptation to prescribe them in young people in which this diagnosis has not been clearly established, thus treating them for a disorder they do not have. One teacher in a school for gifted students apparently recommended to the parents that the entire class be put on ADHD medication, thinking this would make them pay attention better.

Medication does have a dramatic beneficial effect in most of those who actually do have ADHD, and studies have indicated it is not associated with unacceptable levels of long-term risks or delayed side effects. There are side effects in some children taking these drugs, but they are usually apparent early on, so the therapist can modify the dosage or discontinue the medication.

What is ADHD?

Children, teenagers, and adults who suffer from ADHD have different variations or degrees of three fundamental problems, which are severe enough that they interfere significantly with normal socialization activities, schoolwork, or job performance. These three core problems are:

- Hyperactivity - the child or teenager fidgets excessively and cannot settle down when it is best to do so.
- Inattention - the child cannot adequately concentrate on his or her schoolwork, homework, or other tasks.
- Impulsivity - the young person tends to be overly impulsive: he is unable to moderate his urges to blurt out something, or he engages in some sudden new activity without adequate

forethought as to its potential consequences.

We used to consider inattentiveness without the hyperactivity as a separate disorder which we referred to as ADD. This sub-type is now included under the general heading ADHD.

Conditions that mimic ADHD

Gifted children in a classroom setting often have a difficult time paying attention. Their minds are wandering, restless, and distracted. They are easily bored with the academic material being presented in their class when they are functioning at a level that may be two or three grades ahead of their classmates. They may be impulsive, interrupting others who are talking, and blurting out the answers to questions without being asked. ADHD medications will not help these children, who need more intellectual challenges.

Children with mental retardation, usually defined as having an IQ of less than 70, often have behavioral characteristics that would make them seem to have ADHD. They have attention span problems in school because they simply cannot understand the material being presented. Their inattention often translates into increased activity. They are easily identified under most circumstances and are now placed in appropriate academic settings or dealt with by the teacher with full knowledge of their limitations. Many in the past have been placed on ADHD medications and they have not done well.

Certain learning disabilities such as dyslexia (inability to read correctly), dysgraphia (inability to write correctly), or other learning difficulties often present with restlessness and attention span difficulties similar to ADHD. If these children are placed on an ADHD medication they may deteriorate further rather than improve.

Children who cannot hear properly or who have difficulties with mental processing of auditory input will often exhibit some of the behavior of those who have ADHD. The same is true with those who are visually impaired. Such children may fidget a lot and have a noticeably poor attention span. They are hopefully spotted by an astute physician while they're being worked up for ADHD, and hearing and visual tests will indicate the true nature of the problem.

There are also those with oppositional defiant personality problems. Those who have this difficult problem may be hyperactive, may not pay attention, may not follow any of the teacher's rules, and may cause significant disruption in the classroom. They need to be worked with and placed in therapy before the defiant nature of their personality moves on to become a full-blown conduct disorder. To complicate matters many of these children and teenagers do, in fact, have ADHD as well as their personality problems.

For those with autism spectrum disorders, this diagnosis includes pervasive development disorder, Asperger's syndrome, and autism itself, which can present with higher or lower levels of functioning capabilities. All of these disorders can manifest symptoms of ADHD, with distractibility, running about the room, inability to pay attention, and screaming and crying out behavior.

Children with Tourette's syndrome often display to teachers the inability to pay attention. There is fidgeting, and then motor tics (severe blinking of the eyes, twisting, shaking the head, jerking the body) or verbal tics (guttural sounds, muttering or calling out obscenities, emitting humming noises). These children will often become worse if placed on Ritalin or other ADHD stimulant medications.

Children with depression are more common than many realize. They often present in classroom situations with an inability to concentrate and with increased activity levels. Such children may

also cry out in class, thus seeming impulsive. Depression in its various forms is so widespread that some pediatricians have expressed the view that many children who have been thought to have ADHD are in reality depressed. If so, they need therapy specific to their depression.

Children who are psychotic can present with many symptoms of ADHD such as irritability and excessive energy, lack of attention span, impulsively blurting out various sounds, or shoving and otherwise roughing up other children. The professional who works up such a child should be able to narrow down the diagnosis of a severe mental disorder. Many of these young people respond well to the proper anti-psychotic medications and can continue with their schooling, sometimes in special classes.

Seizures also commonly affect children. They can be caused by genetic miswiring of the brain or can follow head trauma or encephalitis. Brain tumors are not unusual in children and can also cause seizures. There are many different kinds, but the most common that are mistaken for ADHD are known as partial complex seizures. These result in recurrent spells during which the child does not fall asleep but has altered consciousness and strange behavior with decreased alertness and abnormal purposeless movements of the arms and legs for a short period of time.

Medical conditions leading to hyperactivity and attention problems can include severe allergies, reactions to medications taken for other conditions, anemia, thyroid or other endocrine problems, heart problems, and even lead poisoning. A careful medical workup should be part of a complete evaluation of a child who is suspected of having ADHD. Then, the correct diagnosis can be established and the proper treatment can be carried out.

There are other situations such as, family strife, frequent moves, childhood abuse, and other disruptive family problems that can wreck havoc with a child's ability to sit still, pay attention and do well in school situations as well as in socializing with other children. Teachers often learn of such problems and realize the child does not actually have true ADHD. In more subtle cases alert diagnosticians will pick up the marital and family discord. This is a classic situation in which the therapy for the child's problems in school and on the playground needs to address the underlying issues leading to that behavior.

Treatment of true ADHD

Federal laws now mandate special help for children with disabilities, but such students are often included in the regular classroom which is buttressed with specially trained teachers and teacher's aids who provide appropriate learning materials for the disabled and work with them in specific ways while they're in the classroom. Teachers are often wonderful these days in dealing with ADHD children.

But, what can parents do? First of all they can support their child through thick and thin, never making excuses or relaxing their own rules, which must also be followed by the child, but always remembering that their child can't help it!

Parents should not blame their child for his school failures. They should be aware that ADHD is a complex neurological disorder. Kids who suffer from it have multiple problems in terms of attention span, hyperactivity, cognitive processing, memory, coordination, impulse control, and above all a lack of proper executive functioning - the ability to organize, sequence properly and self-monitor one's progress in dealing with any task. In many cases they can't do any of these things well, and they will need their parent's help.

If the child's parents or his teacher feel additional therapy is needed, child counseling is often

available and can be very beneficial. Many parents wish to explore such counseling first, and then go to medications later on if needed.

Cognitive behavioral therapy helps many children with ADHD, helping the child to analyze in his own mind how his behavior and impulsivity works against his own best interests, and helping him to understand the importance of trying out new approaches to behaving. The therapist then reinforces those behaviors in the child, often through role-playing activities.

Are drugs the answer, or part of the answer? If the child with ADHD does well with Oriental medical treatments, environmental alteration, and counseling where appropriate, he may not need medications. When this happens it is the best of all worlds. Once the diagnosis of ADHD has been verified, attention is first directed to situational factors that can be improved, in the school, on the playground, and at home. Efforts to improve a chaotic family situation pay great dividends. Then, after everything else is addressed and corrected as much as possible, if the child or teenager still needs help, medication can be considered.

Neurotransmitter function is altered in the brains of those with ADHD, and for this reason medication therapy has been found in many comparison studies to be more effective that psychotherapy. In some studies, children with ADHD did as well with carefully-monitored medication alone as those did who had combined psychotherapy and medication. Both groups on medication did better than control groups who only had psychotherapy. In these studies, it seems the medication was clearly beneficial.

What medications work well, and which are the best?

There are many medicines out there today to treat ADHD. They generally fall into one of four classes of drugs:

- The methylphenidate derivatives such as Ritalin (still the most popular drug for this condition), Ritalin LA, Concerta, Focalin, and Metadate CD.
- The amphetamine drugs, including Dexadrine, Adderall, and Adderall XR.
- Other non-related stimulants such as Cyclert.
- Antidepressants such as Tofranil, Wellbutrin, and Strattera.

Ritalin (methylphenidate) works well in many if not most children. It begins working within a half hour after taking it, and generally lasts for four hours. Teachers who have many kids on this medication see it beginning to wear off at 11:30 or so, and both the students and the teacher look forward to passing out the noon dose. Ritalin LA (long acting) has a wax matrix to slow the drug's release, and lasts for nine hours. It has been shown in some studies to not work as effectively as Ritalin in some children, but it is still a popular medication as it avoids the noontime dose.

A better choice for longer acting medication might be Concerta, which is methylphenidate that has a better slow-release system than Ritalin LA. It remains effective for 12 hours, and is a great alternative to regular Ritalin which often needs to be taken three times a day, which is a challenge for both the child and his caregivers. However, the child must able to swallow the Concerta pills as they cannot be broken up and mixed in with jelly, as can some other medications such as Ritalin LA or Dexadrine spansules. Focalin has a quicker onset and a shorter length of activity than other methyphenidate medications and is sometimes used to cover the time before supper, for example.

The amphetamine drugs such as Dexadrine and Adderall seem to work well also. The treating physician now has an armamentarium of many drugs to try if the first one does not work as well as desired.

Side effects of stimulant drugs

All the stimulant drugs have similar side effects, which seem somewhat more common with the amphetamines than with the methylphenidate drugs. The most common are inability to sleep well at night due to the stimulant nature of these medications, and loss of appetite (as you know, amphetamines are used as appetite suppressants in weight control programs).

Long term studies have not shown that the appetite suppression in growing children results in decreased average height. Average weight is slightly lower in those on these medications but not to any significant amount. Most sleep problems tend to go away over time. Some children complain of headaches or stomach pains but these also tend to go away over time in many children.

New medications may be tried if side effects remain bothersome. One new medication for ADHD known as Cyclert has occasional liver problems associated with its use, including total liver failure in a few children. It should not be used, as there are far safer alternatives.

When side effects with the stimulant medications do not go away, or if a significant benefit has not been achieved, some treating physicians try certain antidepressants, as listed above. This is particularly true of the ADHD child has any associated mood changes such as depression or excessive anxiety. Tofranil, a tricyclic antidepressant, works well in some of these children, but those with a history of cardiac problems should have a baseline ECG and a consultation with a pediatric cardiologist who must approve the child for this drug, and the dosage should be carefully monitored.

Strattera, a norepinephrine-reuptake inhibitor, was specifically designed for ADHD therapy as a non-stimulant medication that simply maintains high brain levels of the needed neurotransmittors. It works well in double-blind studies. Long term studies so far indicate only rare cases of liver toxicity, which goes away with discontinuance of the drug. Suicidal thoughts are sometimes noted, occurring in a little less than one-half of one percent of children. All parents of children on this drug should be aware of this unusual but potentially serious problem.

Wellbutrin works well in some children when all else fails, but there is a high incidence (about 7 percent) of dizziness or tremors in those who take it, and about a half percent of those on this drug experience seizures. It should not be used in a child with a seizure disorder or a history of brain injury.

Certain alternative supplement preparations are also popular. These preparations include homeopathic remedies, essential fatty acids, amino acids, and Chinese and Western herbs.

Putting it all together

Children and teenagers with ADHD come from a wide variety of backgrounds, have varying intellectual capacities. Often they may have other associated mental problems.

A cooperative and supportive family is a keystone to success. Most families, once they know what is happening with their child, and what is at stake, will become supportive. Parents of children with ADHD often work with the teachers and school administrators to formulate an IEP (individual education plan) for their child so he can qualify for special education services under the many laws enacted by the federal government since the 1970s to provide the disabled with fair and equal opportunities in our society.

The child with ADHD must be supported in maintaining a good self-image. Many have fragile egos and need boosting. Sympathy is not helpful, as this dis-empowers the child. Empathy is always

needed. Working alongside these children in positive, supportive ways is rewarding for the child and for everyone else who knows him and cares about him.

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