

FIFTH EDITION

# ADHD

A Guide to Understanding  
Symptoms, Causes,  
Diagnosis, Treatment,  
and Changes Over Time  
in Children, Adolescents,  
and Adults

PAUL H. WENDER, MD  
DAVID A. TOMB, MD

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OVER TIME IN CHILDREN,  
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## PREFACE

To avoid possible confusion in terminology, let us explain what this book is about. Attention-deficit hyperactivity disorder (ADHD) has had several names in the past. Among the earlier names were “minimal brain dysfunction,” “hyperactivity,” and attention-deficit disorder (ADD). The latest and what we hope is the final name is attention-deficit hyperactivity disorder (ADHD).

In 1973, the senior author published the first version of this book, *The Hyperactive Child*. During several years of treating “hyperactive” children, he had discovered that the parents of such children needed information about the nature, causes, and treatment of “hyperactivity,” and that no book was available with such information in a form suitable for the concerned layperson. *The Hyperactive Child* was written in response to this need, drawing on clinical and research experience as previously summarized in a book for physicians and other professionals working with children (P. H. Wender, *Minimal Brain Dysfunction in Children*, New York: Wiley, 1971).



In 1978, the second version of the book was published that contained new information about the medical and psychological management of “hyperactivity.” It also included a discussion of the learning disabilities that frequently—but not always—accompany hyperactivity.

In 1986, the third version was published. It was written for two reasons: first, as a continuing update and, second, to acquaint readers with “hyperactivity” in adults. It was based on information accumulated in our research on “hyperactivity” in adults that we had initiated in 1975. We believed that an understanding of the condition was as essential for ADHD adults as it was for the parents of ADHD children. The third edition presented what we had learned about the symptoms, the diagnosis, and the treatment of ADHD in adults.

The fourth edition in 2000 presented an update of our knowledge of ADHD in children, but it also presented a much greater expansion of what we had learned about ADHD in adults across fifteen years of research. It examined what we had discovered about the symptoms and the characteristic problems that ADHD adults experience socially, vocationally, and interpersonally and provided two rating scales we had developed for adults. These scales helped determine if the adult had ADHD as a child and they also included the symptoms we used to determine whether he or she had continuing symptoms of ADHD. The book also contained an update of our knowledge of drug and psychological treatments. Finally, we included some case histories of ADHD children and ADHD adults so that the reader could get a more intimate feeling for the lives and experiences of the patients we treat.

The current edition of this book follows fifteen years of exciting progress in the study of ADHD during which time this condition has become widely recognized as common among both children and adults. This is an update of what has been learned over those years about what causes ADHD, how it is recognized, what happens to it as people age, and how best to treat it. In addition, Dr. Wender has added a second author to the book, David A. Tomb, MD, who has been a colleague of his for over thirty years and who also has extensive experience with ADHD.

This book is dedicated to the ADHD children and their families who have taught us so much about the disorder. It is dedicated also to those ADHD adults who have educated us about their problems and have willingly participated in scientific experiments over the past forty years, experiments that have taught all of us more about ADHD in adults. We continue to believe that better understanding will lead to better treatment of ADHD and learning disabilities, frequently misunderstood disorders of childhood, adolescence, and adulthood.



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## INTRODUCTION

*“Phil, stop acting like a worm,  
The table’s not a place to squirm”  
Thus speaks the father to the son,  
Severely says, not in fun.  
Mother frowns and looks around,  
But Philip will not take advice,  
He’ll have his way at any price.  
He turns,  
And churns,  
He wiggles  
And giggles  
Here and there on the chair;  
“Phil, these twists I cannot bear.”*

(After which he leans backwards in his chair, and as he is falling grabs the tablecloth, tumbling him, the dishes, and the chair to the floor.)

—“FIDGETY PHIL,” *translated from a German  
book illustrating childhood misbehavior, 1845*

ATTENTION-DEFICIT HYPERACTIVITY DISORDER (ADHD) is the most recent term given by psychiatrists to a childhood disorder that has had a variety of names in the past. This disorder was first termed “hyperactivity,” then “attention-deficit disorder” (ADD), and then, to differentiate between children who had ADD but did not exhibit hyperactivity, either (plain) ADD or ADD with hyperactivity. The new “official”

term, attention-deficit hyperactivity disorder (ADHD), has been chosen by psychiatric experts, and its symptoms have been published by the American Psychiatric Association in its *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5). The definitions in this manual are widely acknowledged and are used among doctors, in research, and administratively for purposes of insurance. The earlier term, ADD, survives in the name of a major parent and patient support group, C.H.A.D.D.

Probably 5–10 percent of children and at least 3–5 percent of adults suffer from attention-deficit hyperactivity disorder (ADHD). Although ADHD was described by physicians many years ago, its frequency has been recognized only recently. ADHD is frequently accompanied by learning disorders in reading, spelling, or arithmetic, and by other behavior and emotional disorders as well. ADHD is more common in boys than in girls. Child psychiatrists used to believe that the symptoms of ADHD diminished and disappeared as children grew older, but it is now recognized that ADHD is not a passing childhood disorder but is serious and can often be lifelong, with the symptoms frequently persisting into adolescence and adult life.

Along with an increasing awareness of the problem of ADHD, a better understanding of its causes and treatment has developed. The purpose of this book is to explain to parents and adults the present thinking about the nature of this problem and how to manage it. The book should, of course, be an aid—not a substitute—for diagnosis and treatment by a qualified physician. It is designed to answer many of the most frequently asked questions and to describe many of the approaches and treatments that individuals have found

helpful in dealing with ADHD in themselves and/or their children.

Although the behavioral problems that make up ADHD and the academic problems associated with learning disorders often occur together in the same person, it is useful to view each disorder separately. First, not all those with ADHD have the problems in reading, spelling, or arithmetic that are seen in learning-disordered people, and not all those with learning disorders have behavioral problems. Second, the treatment of ADHD behavioral problems and the treatment of learning disorder problems are different. For the most part, therefore, we will discuss them separately. Two behavioral disorders frequently may accompany ADHD as well—oppositional defiant disorder and conduct disorder—and we will discuss them briefly in Chapter 2.

The following are the most important points we will make about ADHD:

1. ADHD is the most common chronic (ongoing) psychiatric disorder of childhood. It is probably two to three times more frequent in boys than in girls.
2. ADHD very frequently persists into adolescence and adulthood. Without treatment, the ADHD child is likely to have increasing difficulties in school and is much more likely than his non-ADHD classmate to develop behavioral problems that can lead to “at-risk” behavior—at risk to himself and to society, and therefore, in the extreme, in the eyes of the law. This behavior may continue into adulthood, leading to severe problems during the adult years.
3. ADHD is not a recent discovery. “Fidgety Phil” was written in 1845, and a British physician recognized

ADHD symptoms in children at the beginning of this century. The use of medication to treat ADHD is also not new. A class of drugs called the amphetamines was first used in the late 1930s. They are still available and are every bit as effective overall as is the well-known drug Ritalin® (methylphenidate).

4. ADHD is a brain disorder that is likely transmitted by genes, meaning it is probably a hereditary disorder. Exactly how it is passed on is not known, but it may be as a difference in the structure or chemical functioning in the brain.
5. ADHD often occurs with other disorders. The most common ones are learning disorders and behavioral disorders, such as oppositional defiant disorder and conduct disorder.
6. It is important to identify and treat ADHD in children as soon as possible for two reasons. First, treatment helps the child *now*. If the child learns more easily at school, it helps him avoid the anxiety and depression associated with academic difficulties, unpopularity with other children, and conflicts with his parents. Second, early treatment may decrease the risks of problem behavior ADHD children are more likely to develop in adolescence. Although ADHD children have at times been portrayed as energetic, “high spirited,” and creative, this disorder should not be thought of as providing an advantage or as “a good thing to have.” Rather, it carries in its wake a host of potentially serious and lifelong problems that can radically impair a person’s life.
7. The diagnosis of ADHD in children is made on the basis of a careful history from the mother and father

or others who have helped raise the child, an interview with the child, and from rating scales (used to describe the presence, frequency, and severity of symptoms) filled out by teachers and others who have worked with and know the child. The diagnosis of ADHD in adults is made on the basis of accounts by both the adult and someone close to the adult—a spouse or partner.

8. There are no special psychological or laboratory *tests* for determining whether a child has ADHD. As previously mentioned, the diagnosis is based on the interviews described and by rating scales. Although no special psychological or laboratory tests can diagnose ADHD, there are tests to diagnose learning disorders: IQ tests and achievement tests in reading, spelling, and mathematics.
9. In many instances, medication can reduce and sometimes eliminate many of the problems of ADHD in children, adolescents, and adults. Treatment with stimulant medication may produce substantial benefit in as many as 80–90 percent of school-age children and perhaps 70 percent of adults with ADHD. An important point about the drugs used to treat ADHD is that they are not addictive in ADHD patients when taken in the doses prescribed. A second point is that the treatment controls the symptoms of ADHD, even though it does not cure it. This is not unusual in medicine. For example, insulin does not cure diabetes, but it enables diabetics to metabolize carbohydrates; anticonvulsants do not cure epilepsy, but they prevent epileptic seizures.



10. Psychological treatment of ADHD can be very helpful for both children and adults. Changes in childrearing behavior can help parents deal with the ADHD child. Educational remediation (special education or resource education classes) may be useful for ADHD children who also have learning disorders. Other psychological treatments show various and uncertain promise such as the use of behavior therapy, with and without medication, that has been evaluated in a large collaborative study conducted by the National Institutes of Mental Health, the Multimodal Treatment Study (MTA). These interventions will be reviewed in Chapter 5.
11. In adulthood, medication is effective, and clinical experience suggests that such therapies as couple therapy and psychoeducational therapy may be helpful. Other forms of treatment (such as group therapy) are being evaluated.

This book attempts to summarize what we have observed and learned in treating hundreds of ADHD children over a period of almost fifty years and what we have learned about ADHD from treating and doing research on several hundred adults during the past forty years. In addition, it summarizes information obtained from numerous medical reports on the experiences and findings of other physicians. After describing the characteristics of children with ADHD, we will present current thinking on its causes. The changing nature of the disorder as the child matures will next be described, followed by a discussion of treatment, both medical and psychological. The persistence of ADHD into adulthood is then examined, along with its treatment.

Finally, for both parents of ADHD children and for ADHD adults, we will list sources of professional help in diagnosis and treatment.

In covering the subject of ADHD, we will use the following words many times: “few,” “some,” “frequently,” “many,” and “most.” In medicine and education, one can rarely use such words as “always,” “every,” or “never.” Variety in people is stimulating in everyday life but complicating in medicine. Physicians would like to be able to use the words “always” or “never,” but seldom can. This may make approaching the subject more difficult, but it will present a more realistic picture. To avoid awkward changes back and forth, we have used the pronoun “he” rather than “she.” Similarly, we have used the word “spouse” rather than the more roundabout “significant other.”



# THE CHARACTERISTICS OF CHILDREN WITH ATTENTION-DEFICIT HYPERACTIVITY DISORDER

THE TASK OF DESCRIBING the characteristics of children with attention-deficit hyperactivity disorder (ADHD) is in some ways a difficult one. This is in part because many of the symptoms are present in all children and adults to some degree at some time. Consequently, the parents reading this chapter are apt to conclude that all their children have ADHD. Before beginning, therefore, let us emphasize that the characteristics listed are not abnormal in themselves; they are only abnormal when they are excessive. What characterizes ADHD children is the *intensity*, the *persistence*, and the *patterning* of these symptoms.

In this chapter, we will also discuss other disorders, such as learning disorders and severe behavioral problems that often occur in children with ADHD. This is important because they require different treatment approaches. Among the learning disorders are impairments associated

with reading, written expression, or math. Studies have shown that somewhere between 25 and 40 percent of ADHD children have specific learning disorders. Among the psychological and behavioral disorders is oppositional defiant disorder (ODD) in which children are consistently angry, arguing, stubborn, defying adults, deliberately annoying, and even spiteful and vindictive. Even more serious is conduct disorder (CD), which is characterized by early aggressiveness, fighting, truancy, lying, stealing, and destruction of property. Numerous studies, often performed in clinics where children are often referred by schools and social agencies, typically have found a significantly increased frequency of both conditions. Figures vary somewhat but on average indicate that perhaps 40 to 50 percent or more of ADHD children have ODD and more than 15 percent have CD. Clinics are more likely to see severe cases of ADHD, however. Among ADHD children brought to private practitioners by parents, the rates of ODD and CD appear to be lower. These conditions will be discussed later in the chapter. (The *DSM-5* rules for diagnosis for ADHD, ODD, and CD can be found in the Appendix.)

This chapter should not, of course, be used for diagnosis. It can, however, be used by a parent as a “screening” tool, for help in deciding whether a child’s behavior requires evaluation by a specialist. What the specialist can do is determine whether the child’s symptoms are more severe than most children of that age, whether the pattern of symptoms is consistent with ADHD or a related condition, and whether a problem exists. Only a clinician who has evaluated many children can accurately decide if a given child has ADHD. Parents who try to make the diagnosis alone are like medical students who, after reading the symptoms of diseases in

their texts, think they have contracted smallpox, leprosy, and cancer within a space of a few weeks. (Fortunately, the medical students recover just as rapidly.) Parents who suspect that their restless, poorly coordinated, distractible, and demanding child may have ADHD should seek the services of a competent specialist for diagnosis and determination as to whether treatment is needed.

Finally, we also want to emphasize that because the list of characteristics presented here is meant to be exhaustive, it will include some traits that are present in some but not necessarily all children with ADHD. Also, ADHD is three times more common in boys than girls, and girls typically, but not always, have less hyperactivity as well as fewer behavior problems, and they are less likely to have conduct disorder and aggressiveness.

## ATTENTION DIFFICULTIES AND DISTRACTIBILITY

---

One characteristic of the ADHD child that is almost always present is easy distractibility or shortness of attention span. This difficulty is not as obvious as hyperactivity but is of greater practical importance. The ADHD child does not have stick-to-itiveness. Young children, in comparison to adults, are relatively lacking in the ability to concentrate and follow through on long and tedious tasks. The ADHD child acts like a child younger than himself. He is the opposite of one who sits patiently in the corner painstakingly solving a puzzle and tolerating no interruptions. As a toddler and nursery school student, the ADHD child rushes quickly from activity to activity and then seems at a loss for things

to do. In school, his teacher reports: “You can’t get him to pay attention for long. . . . He doesn’t finish his work. . . . He doesn’t follow instructions.” (And how could an inattentive child do so if the teacher says, “Take your geography book, turn to page 43, think about the first three questions, and write the answers in your workbook”?)

Whereas the ADHD child may “only” have problems with inattention and distractibility, these symptoms “alone” can cause difficulties not only at school but also in his relations with other children. The inattentive child may miss the point of a story another child is telling and interrupt. He is then thought of as “out of it” by his peers. Or the child may miss instructions for a game and make mistakes. One soccer coach we know insists that his ADHD player take his medicine before the start of a game.

At home, his mother notices that “he doesn’t listen for long . . . he doesn’t mind . . . he doesn’t remember.” The parents must hover over the child to get him to do what they want. Told once to eat with his fork and not his hands, he complies, but a few seconds later, he is eating with his hands again. He may begin his homework as requested but fails to complete it unless the parents nag him. The child may not necessarily disobey instructions, but in the middle of an assigned job, he starts doing something else. Tasks begun are half-done. His room is half-restored to order; the lawn is half-mowed. Sometimes, as discussed later, the child appears to remember but is reluctant to comply. Other times, he appears to be distracted from the task at hand and forgets.

It is important to note that distractibility need not be present at all times. Often when the child receives individual attention, he can attend well for a while. The teacher may report that he “does well with one-to-one attention.”

A psychologist may note that the child can pay attention during testing. A pediatrician may observe that the child was not inattentive during the brief office examination. They are all correct, but what is important is not how the child can pay attention when an adult is exerting the maximum effort to get him to do so. Many ADHD children can listen attentively for at least a little while. If the examiner, child psychiatrist, pediatrician, or psychologist does not realize the potential variability of such behavior, he or she may incorrectly come to the conclusion that the child is perfectly fine and that the parents and teacher are overreacting.

In *some* ADHD children, the distractibility may be concealed by the ability to stick with a particular activity for an unusually long period of time. Usually, it is an activity they choose themselves. Sometimes it is a socially useful one (e.g., reading), and sometimes it is not. The child may seem to “lock on” and be undetachable or unusually persistent. The activity may be performed repetitiously for a long period of time. Such paradoxical behavior in an ostensibly distractible child may confuse a parent, who will ask, “How can he be distractible when he plays with his computer games for hours on end?” The highly unsatisfactory answer must be: “We do not know, but this is indeed the case.”

## HYPERACTIVITY

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Not all ADHD children are hyperactive (which is the reason the name of the disorder was changed) and rather have problems primarily with inattention. However, most ADHD children are very active, and when hyperactivity is present, it is very hard to miss. Many children with ADHD have been



excessively active since early infancy. Parents often report that the child was “different” from the beginning of his life. Frequently, such infants are restless and have feeding problems and colic (intermittent and unexplained crying). They also often have sleeping problems of various sorts: some children fall asleep late and with difficulty, awaken frequently, and arise early; others fall asleep profoundly and are hard to arouse.

As these infants become toddlers, many of them are bundles of energy. Parents frequently report that after an active and restless infancy, the child stood and walked at an early age, and then, like an infant King Kong, burst the bars of his crib and marched forth to destroy the house. He was always on the go, always into everything, always touching (and hence, usually by mistake, breaking) every object in sight. When unwatched for a moment, he somehow got to the top of the refrigerator or appeared in the middle of the street. In a twinkling of the eye, pots and pans were whisked from cupboards and their contents spilled, glasses knocked off tables, and lamps overturned. The mother usually felt—and with good cause—that to take her eyes off him for one moment was to invite disaster: the moment her back was turned, something was broken or the toddler’s life was in danger. And she was right. ADHD children have more than their share of accidents and are much more likely than non-ADHD children to be seen in emergency rooms. Once he obtains his driver’s license, he is at an increased risk to experience an automobile accident.

As the ADHD child grows older, the description changes: he is incessantly in motion, driven like a motor, constantly fidgeting, drumming his fingers, shuffling his feet. He does not stay at any activity long. He pulls all his toys off

the shelf, plays with each for a moment, and then discards it. He cannot color for long. He cannot be read to without quickly losing interest. Of course, he is unable to keep from squirming at the dinner table; he may not even be able to sit still in front of the TV. In the car, he drives the other passengers wild. He pokes the people beside him, plays with the window switches, tugs others' seat belts, and kicks the passengers in the front seat. At school, his teacher relates that the child is fidgety, disruptive, unable to sit still; that he gets up and walks around the classroom, talks out, clowns; and that he jostles, bothers, and annoys his fellow pupils. Sometimes the ADHD child is as overtalkative as he is overactive, chattering as ceaselessly as he moves.

It is important to emphasize that what is different about the ADHD child is not his level of activity while at play. All children make all adults look like sloths. The ADHD child cannot be distinguished on the playground. His top speed is not greater than that of other children. What is so different about the ADHD child is that when he is requested to turn off his motor, he cannot do so for very long. Unlike other children, he cannot inhibit his activity in the home or the classroom. However, the ADHD child need not *always be* moving. Sometimes he can sit relatively still. For whatever reason, this is most apt to occur when he is getting individual attention from an adult. That is worth remembering because sometimes people who examine the child are misled when he sits more or less still for ten to fifteen minutes. They usually discover their error when they try to increase that time to an hour or so.

To repeat, an important point about ADHD is that *not all ADHD children are hyperactive*. There are ADHD children who have many of the problems we are discussing in this chapter but are not overactive at all, and there are even

a few who are less than normally active. These ADHD children are more likely to be overlooked than those with hyperactive ADHD. This is particularly likely if they have learned to keep quiet as a way of avoiding embarrassment. However, many of the other problems of ADHD such as short attention span, easy distractibility, and disorganization can exist without hyperactivity itself.

The second point is that clear-cut hyperactivity may be the first symptom to disappear as the child grows older. (However, it may simply remain in a less obvious form. The ADHD adolescent or adult may continually fidget or tap a foot and may describe himself as restless, unable to sit still for long, and prefer energetic to quiet activities.) Often, the other problems persist. Therefore, even though the once overactive child has slowed down, not all problems are resolved. Many other problems may continue to require treatment, even though the hyperactivity itself is gone.

## IMPULSIVITY

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A very frequently described characteristic of ADHD children is “impulsivity” or “poor impulse control.” Every young child wants what he wants when he wants it. He acts without reflection or consideration of the consequences. The ability to tolerate delays, to count to ten, to think before acting, tends to develop with age. Again, the ADHD child behaves like a child several years younger than his chronological age.

He rapidly becomes upset when things or people fail to behave as he would have them behave. Toys get kicked (and sometimes broken), brothers and sisters and classmates are apt to get socked when they do not do what *they* should.

The ADHD child acts on the spur of the moment. He rushes into the street, onto the ledge, up the tree. As a result, he receives more than his share of cuts, bruises, abrasions, and trips to the emergency room. He is highly accident prone. He wears out clothes or destroys toys—not maliciously but unthinkingly. It seemed like fun to walk in the street in his Sunday best; he wondered what would happen if he pulled that knob on the toy.

Impulsivity is also shown in poor planning and judgment. It is difficult to specify how much planning and judgment one should expect of children, but, again, ADHD children show less of these qualities than seems to be age appropriate. They are more likely than most children to run off in several directions at once. They are disorderly and disorganized. Their impulsivity combines with their distractibility to produce untidy rooms, sloppy dress (untucked shirts, unzipped zippers), unfinished assignments, careless reading and writing.

Another area that is a problem in some ADHD children is bladder and bowel control. When younger, some ADHD children may wet or soil themselves slightly during the day. They seem to pay no attention to their “pressing needs” and overflow somewhat. Bed-wetting, which occurs in about 10 percent of all six-year-old boys, seems to be at least three times more common in ADHD children. It may be that bed-wetting in some ADHD children is related to unusually deep sleep, but this is not certain. The relationship between ADHD and bed-wetting is important to recognize because in the past “accidents” have often been assumed to be a sign of deep psychological problems. However, this does not appear likely to be the case. Often bed-wetting has been present all along as a manifestation of ADHD and responds to the general treatment prescribed for it.

Social impulsivity—antisocial behavior—is *sometimes* a problem in ADHD children. At some time, all children steal, all children lie, most children play with matches. As they grow older, most children learn to inhibit these impulses. A few ADHD children do not; they take, lie, or light matches whenever they want to. (When repeated and severe, this may represent symptoms of a conduct disorder. See the description later in the chapter.) Now, ADHD, itself, does not explain *why* children wish to do these things. Children steal for a wide variety of reasons. Stealing may result from a simple desire to have or from a desire to have things that would buy affection; it may be an attempt to achieve status in a group; it may be a source of excitement; or it may be a means of retaliating or obtaining attention or punishment. What is important is that if these motives occur in the ADHD child, he is less able than other children to control himself. It should be obvious that treatment of such a child would require a twofold approach: dealing with the specific motivation and reducing the impulsivity (or increasing the ability for self-control).

And, as with hyperactivity, impulsivity may not be present. The ADHD child may only be inattentive. This is important because, like hyperactivity, impulsivity is very noticeable whereas inattention may not be.

## ATTENTION-DEMANDING BEHAVIOR

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To develop normally, all children require adult interest, involvement, and attention. As they grow older, they require less but still need the awareness and interest of those whom they love and respect.

The ADHD child demands attention, but this in itself is not what makes him different. He is different and difficult because of his insatiability. Like a younger child, he wants to be always on center stage. He may whine, badger, tease, and annoy without stopping. The manifestations change with age. As a toddler, he may repeat annoying and prohibited activities; as an older child, he may attempt to monopolize the dinner-table conversation, clown in the classroom, and show off with his friends at some risk and to the distress of adults.

These aspects of his behavior may be concealed by the fact that he sometimes does not manifest certain kinds of affectionate behavior. Many, although far from all, ADHD children have been undemonstrative. In infancy, they were noncuddlers. They did not go to sleep on laps but wiggled off to go about their own business. They were not upset when their mothers left them with babysitters or at nursery school. Nonetheless, the same children sometimes figuratively managed to stand at arm's length and prod their parents with a pole.

The demand for attention can be distressing, confusing, and irritating to parents. Because the child demands so much, they feel they have not given him what he needs. Because they cannot understand how to satisfy him, they feel deficient. Finally, because the child may cling and poke simultaneously and endlessly, they feel angry.

## **SCHOOL DIFFICULTIES AND LEARNING DISORDERS**

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In discussing the school difficulties that sometimes afflict ADHD children, it is important to emphasize that while

some ADHD children have modestly decreased intelligence, ADHD does *not* affect intelligence as ordinarily defined and measured by intelligence tests. The proportions of the bright, normal, and slow are the same among ADHD children as among children who do not have ADHD. Attention-deficit hyperactivity disorder is not related to mental retardation.

As we indicated earlier, ADHD is frequently accompanied by specific learning disorders (LDs), a term used to describe significant difficulty in reading, spelling, or math. The formal diagnostic names are specific learning disorder with impairment in reading, in written expression, and in mathematics. Because of these deficits, academic performance and day in, day out functioning are typically well below average.

LDs are inherited, biological disorders that run in families, are more common in males, are first recognized as a child begins formal education, are lifelong, and although they will not go away they can often be improved with specific education. It is thought that the brain has difficulty identifying symbols such as letters and numbers and, in the case of reading, has particular difficulty associating the tiniest sounds of language with specific letters. Using modern, specialized brain imaging technology, it has recently even become possible to “see” where the alterations are in the brain.

The particular characteristics of an LD will vary with the age of the child. With impairment in reading (dyslexia), there is difficulty in reading single words accurately, rapidly, and fluently, and the person may mispronounce words and mistake sounds. Learning to write one’s own name may require practice. They have no ear for language and may not be able

to tell that two words rhyme. As they reach adolescence and beyond, the trouble may be more with multisyllable words but their reading will remain slow and require great effort. In some, they have real difficulty understanding what they have read; that is, they have problems with reading comprehension. With impairment in written expression, spelling is a major problem along with grammar and punctuation. They have trouble composing their thoughts and making them intelligible in writing. Finally, with impairment in mathematics they seem to have no “number sense.” They may have trouble recognizing numbers or doing even simple calculations. They do not “get” math facts and cannot reason using numbers. Children with an LD in mathematics often reverse figures in columns and show difficulties with word problems (e.g., if apples cost three cents each and I buy eight and give you a quarter, how much do you owe me?).

In LDs, one often sees other difficulties in addition to those used for a diagnosis. Handwriting is often horrendous—illegible and unplanned, wandering all over the page. They may have difficulty in telling right from left. One patient with right/left difficulties solved his problem by putting his watch on his left hand—and he remembered the left hand because it was the one with the mole! Some have trouble with spatial relations—the person cannot follow directions to find his way around a strange place or city. Sometimes the child has difficulty in learning sequences (such as days of the week or the months of the year) or in telling time (before the invention of the digital watch). For others, learning and retaining the multiplication table present special problems.

All children (and adults) with LDs have problems performing in one or more of these academic areas despite



normal intelligence, adequate teaching, and absence of psychiatric illness. LDs are classified as neurodevelopmental disorders because children with them fail to acquire these specific skills as they grow and mature. This is not the same as suffering from intellectual disabilities or mental retardation. We do not use the term “impairment” in reading for children who are intellectually slow in many areas, including reading. Such children are equally and predictably slow in a wider range of areas, so that one would expect them to have difficulty in reading. Individuals with LD have a discrepancy between their intelligence and their performance in reading and/or written expression and/or mathematics. For example, consider a ten-year-old third grader with average intelligence. He should be reading at a ten-year-old level. If the child is only reading as well as an average eight-year-old, he is two years behind and may be diagnosed as having an LD in reading.

Two questions about LD are usually asked by parents. The first is, “How can a child get a normal score on an intelligence test and have trouble with reading?” The answer is that the kind of intelligence tests that are used to diagnose suspected LD do not involve reading. The psychologist *asks* questions of the child, and the test is designed to measure such things as knowledge, abstraction, reasoning, memory, problem solving, observational ability, and quickness. We do not know enough about the brain and mind to know why someone can be very smart and yet be unable to read well or to add up a column of numbers, but we do know that many such people exist. We have seen children and adults with marked LD who read painfully slowly or who cannot add figures in their checkbook (or in scientific experiments!) but who play a brilliant game of chess, are sophisticated

inventors, or are at home in advanced mathematics. Such uneven development has important practical results, of course, both for education and for the psychological well-being of the person with an LD.

The second question usually asked is, “How far behind does someone have to be to be diagnosed as having an LD?” There is no scientific reason for selecting a particular number, but generally school systems say two years. Thus, LDs are often not definitely diagnosed until the third grade. Then, if a child is two years behind, he can be identified as reading like a normal first grader. However, although it is difficult to diagnose LDs before the third grade, parents and teachers are often correct in suspecting such problems when the first- or second-grade child is lagging far behind the other children in learning to read.

We cannot emphasize too much that it is possible to have these problems and still be intelligent. Many fine athletes, musicians, and mechanics have LDs. There are numerous ways in which children and adults with LDs can compensate for their deficiencies. Eminent people known for high achievement have had LDs—for example, Thomas Edison and Harvey Cushing (the father of neurosurgery) had severe dyslexia. Academic skills represent only one part of the vast range of human skills, and they have become more important only recently, as literacy has become widespread.

It is useful to compare people with LDs with tone-deaf people. Tone-deaf people generally have normal hearing and normal intelligence but have difficulty in reproducing musical pitch accurately. They have trouble, for example, singing in tune or playing the violin. Everyone understands that one can be very intelligent and yet be unable to carry a tune. If singing were important and reading were not—as in some

primitive tribes—tone-deaf people would be handicapped as if they had an LD. In hunting societies, speed and coordination would be the most important skills; dyslexia (and tone deafness) would be irrelevant. Thus, dyslexia is a culture-dependent disorder.

Nevertheless, we must not underestimate the importance of these LDs, which we think are physically produced. Having trouble in reading or arithmetic not only makes progress difficult in the academic and business worlds but also leads to typical psychological problems. We will return to these problems in later chapters.

Remember that many ADHD children do not have LDs. Nevertheless, most ADHD children have considerable difficulty in learning at school. “Underachievement” is almost a hallmark of the ADHD child and adolescent. Teachers and guidance counselors will, of course, recognize that the child has problems, and sometimes the school is the first place that the child’s problems are clearly recognized. However, school personnel sometimes underestimate the problems related to ADHD and may attribute the child’s difficulties to emotional problems, psychological maladjustment, or problems in the home.

If the ADHD child does *not* have specific LDs, there are several possible explanations for his poor school performance. These are discussed in more detail in the next chapter. In short, his learning problems may stem from the attention difficulties, low frustration tolerance, and emotional overreactivity that are discussed in this chapter. Intelligence is not enough. A child must have the ability to concentrate for a reasonable period of time and have a reasonable amount of stick-to-itiveness and patience. It doesn’t help that the ADHD child is both inattentive and readily

frustrated. Moreover, his learning problems tend to snowball. His poor performance leads to criticism, which leads to the child's having a poor opinion of himself, which leads to a decrease in his motivation, which leads to a performance that grows steadily worse.

Finally, much of any school experience is boring, tedious, and repetitious. Many parents who visit an elementary school for the first time in ten or twenty years are impressed with its tedium and wonder how they were able to pay attention when they were children. This is not to say that making school into a consistently interesting experience would eliminate the ADHD child's difficulties. Probably, it would not. We only mean to point out that the social structure in most schools makes the ADHD child's problems greater.

## **DIFFICULTIES IN COORDINATION**

Approximately half of ADHD children show various difficulties in coordination, which, when severe, can be seen as reflecting another condition, developmental coordination disorder (DCD). Some ADHD children have limited "fine-motor control": they have trouble coloring, cutting with scissors, tying shoelaces, and buttoning. Handwriting is often terrible and the ADHD child perceives writing as a chore. The combination of poor coordination and failure to plan can lead to an illegible written page with words overrunning lines, the sides of the page, and each other. Others may have some mild difficulty with balance—for example, in learning to ride a bicycle. Still other ADHD children may have poor hand-eye coordination: these children will be

awkward in throwing and catching a ball or in playing baseball or tennis. Not all ADHD children have such problems. Many are well coordinated and some are excellent athletes. When coordination problems are present, they usually cause more difficulties for boys than for girls because for boys athletic ability is an important source of acceptance by others. However, even the children with coordination handicaps may have no problems in activities requiring large muscle groups and may run or swim without difficulty.

## **RESISTANT, OPPOSITIONAL, AND DOMINEERING SOCIAL BEHAVIOR**

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Many hyperactive children manifest interpersonal behavior that has several distinct characteristics: (1) a considerable resistance to social demands, a resistance to “do’s” and “don’ts,” to “shoulds” and “shouldn’ts”; (2) increased independence; and (3) domineering behavior with other children.

Probably the single most disturbing feature of ADHD children’s behavior, and the one most frequently responsible for their referral to treatment, is the difficulty many of these children have in complying with requests and prohibitions of parents and teachers. Some ADHD children may appear almost impossible to discipline. In some respects, they seem to remain two years old. Parents describe them as “obstinate . . . stubborn . . . negativistic . . . bossy . . . disobedient . . . sassy . . . not caring.” All the techniques of discipline seem unsuccessful: rewards, removal of privileges, physical punishment. “He wants his own way. . . . He never seems to

hear. . . . He never learns by his own mistakes. . . . You can't reach him. . . . Punishment just rolls off his back. . . . He's almost immune to anything we do." ADHD children differ, however, in the ways they manifest resistance. Some seem to forget what they are told, whereas others seem to actively oppose what is requested of them. We will discuss the meaning of this when we discuss the causes of the disorder.

With regard to independence, the ADHD child is often excessively independent but in a few instances can be excessively dependent. The independence may be noticed at an early age. The ADHD child is the sort apt to wander ten blocks away from home when he is two years old. When he is brought home to his terrified and distressed parents, he is smiling and excited. He does not seem to get upset by the separation. He is *not* the sort of child who is likely to be upset the first few days of nursery school or kindergarten or when left with his grandparents. The few ADHD children at the other extreme, those who are excessively dependent, tend to be immature, babyish, and clinging. They are the children most likely to show the incessant attention-demanding behavior that we have described.

The ADHD child's relationships with his brothers, sisters, and schoolmates are likely to follow a clearly recognizable pattern. When he is younger, he tends to be a tease. He becomes quite expert at getting others' goats, annoying, and bothering. As he grows older, he shows a very marked tendency to be bossy. Note how this contrasts with his refusal to be bossed by adults. When he plays with other children, he strives to be the leader. He wants to decide what games will be played. He wants to decide what the rules are and, if the game is not played the way he likes, he may quit. Other children tend to avoid him, and after a while,

the ADHD child is likely to be without friends. This lack of friendship is much different from what one sees in a shy, withdrawn child. The ADHD child is often bossy socially and although he *initiates* friendship successfully, his style drives other children away. He will tell his parents that he is talked about, rejected, and perhaps even bullied. These reports are not excuses, and they are not inaccurate. They are correct assessments of what his own behavior compels other children to do. He “makes friends easily but can’t keep them.” As a result, the ADHD child often plays with younger children. However, the ADHD child is not necessarily physically aggressive. He is not sadistic and does not enjoy hurting others. He *does* tend to have more than his share of fights, but this is because of his impulsivity and because brothers and sisters and schoolmates are usually not enthusiastic about being pushed around and told what to do.

## EMOTIONAL DIFFICULTIES

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Many ADHD children show certain forms of emotional problems. The word *emotional* is one of those vague terms used by everyone in a variety of ways whose meaning is not clear. Let us emphasize first that calling these problems emotional does *not* imply that they are psychologically caused—indeed, most of them are probably not.

ADHD children tend to have mood swings and cycles, so their behavior tends to be unpredictable. They have great difficulty regulating their emotions. Parents report: “He’s happy one minute, impossible to get along with the next. . . . He has his good days and bad days, and it’s hard

to understand why.” The last statement is important. All of us have our good and bad days, and often we can link our moods to our experiences. In the case of the ADHD child, it is usually more difficult to find out why he was bad yesterday and good today.

Many ADHD children are unusually underreactive and overreactive. They are sometimes insensitive to pain. They seem unaffected by and are less likely to react to the frequent bumps, falls, and scrapes that are the lot of younger children. (This is sometimes obscured by increased attention-seeking. When their parents are looking, they may tend to squeeze out every last drop of sympathy obtainable.) They are often relatively fearless. A combination of this fearlessness, a craving for attention, impulsivity, and a tendency not to “plan ahead” is apt to land them in socially unapproved situations: when young, at the tops of trees; when older, impressing their adolescent peers with taboo behavior and inviting the interest of the local police. Fortunately, such fearlessness is *not* seen in all ADHD children.

The overreactivity of ADHD children sometimes manifests itself in excessive excitement during pleasant activities. Most young children will be excited at the circus, but ADHD children tend to become quite overexcited in such circumstances. They may even lose control of themselves in less stimulating situations, for example, during a visit to a supermarket. This overreactivity can also be seen in excessive irritability or anger during frustrating activities. Of course, most children (and adults) do not tolerate frustration or disappointment very well. But the ADHD child has a much lower tolerance for frustration and a more violent reaction to it. When things do not go his way, he is subject to temper tantrums, angry outbursts, or sullen spells. Many



young children become irritable and babyish when tired or hungry. An eight-year-old ADHD child may react to fatigue or hunger in the same way that a normal four-year-old does.

Although many parents describe their ADHD children as “angry,” what they usually seem to be referring to is irritability and hot temper rather than aggressiveness or hostility—that is, hyperreactivity to comparative minor situations. “He’s got a low boiling point . . . a short fuse. When he’s angry, he loses control.” Many ADHD children are described as being good-natured except during such outbursts.

One other characteristic seen in some ADHD children that is frequently disturbing to parents might be called “unsatisfiability.” “He never gets a kick out of anything, at least not for long. . . . He can’t be bothered to do much, nothing really seems to give him pleasure . . . you can never satisfy him.” This characteristic is sometimes produced by spoiling (in adults as well as children), but many ADHD children behave this way without ever having been spoiled. Their mothers may have noticed that they were not satisfiable from early infancy.

Finally, one “emotional” characteristic of most ADHD children is also found in many children with other difficulties: low self-esteem. They have little self-confidence: “He doesn’t think much of himself. . . . He thinks he’s bad. . . . He thinks he’s different.” The cause and the treatment of such low self-esteem are discussed at greater length later.

## IMMATURITY

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Immaturity is neither a very scientific nor a very specific word, but it often does accurately describe the behavior of

ADHD children. Their lack of social, athletic, and academic skills, their inability to remember—and act on—“do’s and don’ts” are certainly characteristic of younger children. The inability to tolerate frustration (often resulting in tantrums) and the lack of stick-to-itiveness are normal in younger children. Finally, *some* ADHD children have another trait associated with immaturity: rigidity, the inability to tolerate change (such children, for example, will be upset if their routine is changed or if the furniture in their room is rearranged). From a practical standpoint, it is often helpful for parents to remember that emotionally, *not* intellectually, their ADHD child may behave very much like a child four or five years younger. Remembering this often makes it easier for parents to handle their child: many parents do not know how to act toward a nine-year-old with problems but do know how to deal with a normal four- or five-year-old. If the parents can remember that their ADHD nine-year-old is in *some* respects acting like a normal five-year-old, they may find it easier to understand and help him.

## CHANGING PROBLEMS WITH AGE

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A salient aspect of the ADHD child’s problems is that they tend to change as he grows older. The behavioral problems that are conspicuous in a toddler are very different from those in an adolescent. There are several reasons for this. First, there seem to be changes associated with maturation; for example, the symptoms themselves tend to diminish with age (just as bed-wetting disappears with age). Second, some changes occur as a result of learning: the ADHD child is likely to be more hostile after his tenth year of rejection

by schoolmates than he is after only one or two years of such treatment. Third, recognition of “problems” depends on one’s understanding of the behavior considered normal for particular age groups: fidgety behavior is expected and tolerated in nursery school children but not in second graders; reading difficulty is expected in all first graders but is a problem when seen in fourth grade.

What is the usual sequence of difficulties? In infancy and as a toddler, the ADHD child’s most conspicuous problems are in physiologic function: he is likely to be irritable, to be restless, and to have sleep disturbances such as difficulty falling to sleep and frequent nighttime awakenings. During the toddler stage, his ability to do things increases immensely, and many of them are troublesome things. The most disturbing traits are his continual “getting into” things and his inability to listen—that is, to respond to parental discipline.

As he reaches preschool age, his problems with attention and social adjustment claim the limelight. His short attention span, low frustration tolerance, and temper tantrums make sustained play and nursery school participation difficult. Problems with his schoolmates soon appear: teasing, domination, and other annoying behaviors. These qualities endear him neither to his teacher nor to his fellows, and in a few instances, they result in his beginning his academic career as a kindergarten dropout.

When he starts the first grade, his restlessness attracts attention: his teacher complains that he cannot sit still, that he gets up and walks around, whistles and shuffles. Academic problems, though often present, tend to be ignored. First graders are not expected to read immediately. Bed-wetting may now appear. Although he may have always

been a bed-wetter, bed-wetting is defined as a problem only when the child reaches an age when it is expected to disappear (usually about six), or when he stays overnight at camp or with friends. At about the third grade, when the child is nine or ten, academic difficulties and problems with intentional misbehavior (antisocial problems) begin to attract the most attention. Until that time, slowness in school can be attributed to immaturity or academic unreadiness. But in the third grade, the diagnosis is changed to learning problems or, after testing, learning disability. Reading difficulty causes the greatest concern, but the child may also have trouble with arithmetic and be criticized for messy writing. Outside of school, intentional misbehavior is likely to be the cause of considerable concern. In some instances it can include deceitfulness, sneaking, defiance of authority, violation of the social rules, and failure to show consideration for the rights of others. It also frequently involves a degree of aggressiveness such as bullying and fighting that can progress to clearly illegal activities such as theft, fire-setting, and vandalism. Both the duration and intensity of these problems are highly variable.

If the problems persist into early adolescence, the anti-social problems, if present, typically become the focus of attention. They may become more severe, incorporate drug and alcohol problems, and even attract legal attention. If academic problems persist, they may now be taken for granted. This is not to say that the same child who has a reading problem predictably develops antisocial problems. Rather, if the child has both reading and social problems, the social problems attract the greatest concern at this time.

We wish to emphasize very strongly that the age patterns we have described do not apply to all ADHD children.

Some children manifest difficulties in all developmental stages, some in only a few. At any one stage, the difficulties vary from child to child: some will have academic problems, some will have coordination problems, some will have learning problems, some will have social problems, some will have different combinations of these problems, and an unfortunate few will have all of them.

Finally, many ADHD children tend to outgrow not only their hyperactivity but also a large proportion of the associated other difficulties. Any given ADHD child may follow the developmental sequence listed and then may no longer manifest significant ADHD characteristics at a later stage, say, as a preadolescent or adolescent. However, predicting who will lose many or most of their ADHD symptoms is impossible.

The combination of problems that is seen among ADHD children constitutes what is called a *syndrome* in medical terminology. A syndrome is a group of difficulties that *tend* to clump, cluster, or move together. It is characteristic of medical syndromes for a given individual not to have all the problems associated with the syndrome. For example, some ADHD children may have problems primarily with inattention and distractibility without the other symptoms we have discussed (see Appendix), while most will have problems with inattention and distractibility together with many of the symptoms we have mentioned. These children who are not hyperactive are frequently overlooked because their behavior in school such as daydreaming and staring into space is not disruptive and is less likely to attract teachers' attention and therefore remain undiagnosed. This is unfortunate because these children are likely to be underachievers in school and because it appears that they are responsive

to the same treatment that is so helpful for ADHD children with the additional symptoms that are described in the rest of this chapter. It is also important to note that the child who does not have some of the problems listed at any given stage in his development is very unlikely to develop them at a later stage. The child who does not have coordination problems when he is young will not get them when he is older. The child who does not have reading problems when he is seven or eight will not have them as a teenager. To the parents living with those difficulties that their ADHD child does have, this optimistic aspect of his development may be of some comfort. It is not to be minimized, for it has been observed by physicians who have treated these children and worked with their families over periods of years. Thus, although ADHD is a lifelong phenomenon, in many cases its symptoms gradually decrease to be of little significance as a person ages into adulthood. The most likely symptom to “almost” disappear is hyperactivity.

## **OPPOSITIONAL DEFIANT DISORDER AND CONDUCT DISORDER**

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Of the various conditions that can occur alongside ADHD, perhaps the most worrisome are oppositional defiant disorder (ODD) and particularly conduct disorder (CD). These are both more likely to occur in males, in children with significant hyperactivity, and in children who show early aggressiveness. The more severe the early ADHD symptoms and the more prominent the early antisocial behavior, the more likely the child is to develop either or both ODD and CD.

The ADHD child who turns resistant behavior into defiant behavior may be classified as having ODD. This disorder is described as a “recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures.” He will often lose his temper, argue with adults, actively defy their requests, deliberately do things to annoy others, and be angry and resentful or spiteful and vindictive. Needless to say, this behavior is very difficult for parents and teachers to deal with. Equally important, the child with ODD is at an increased risk to develop CD.

CD children’s core problem is “a repetitive and persistent pattern of behavior in which the basic rights of others or major societal norms or rules are violated.” Such children are aggressive, threaten and intimidate others, initiate physical fights, can be physically cruel to people or animals, destructive of property (including fire-setting), lie, steal, are truant, and seriously violate family and society’s rules. In particularly severe cases, the child may display callousness and a lack of remorse or guilt. About half of CD children continue to behave in a similar way as adults and will frequently have run-ins with the police and spend time in jail. ADHD with CD is more severe than ADHD alone, and most clinicians believe it should be treated vigorously at an early age.

Other disorders may be present in ADHD children, such as anxiety disorders, serious depression, and bipolar disorder, but it is not clear whether there is an increased frequency of these disorders among ADHD children. The important point is to bring to the attention of a clinician the behavior that is causing the child difficulties with those around him.

For those ADHD children who do continue to have problems related to the disorder in adolescence and adulthood, research suggests that a combination of the various treatments available for ADHD may lead to a better prognosis. We will describe in greater detail what is known about treatment and about ADHD in adolescents and adults in later chapters.





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## THE CAUSES OF ATTENTION-DEFICIT HYPERACTIVITY DISORDER

FIFTY YEARS OF SCIENTIFIC RESEARCH has demonstrated, convincingly, that ADHD is a disorder of the brain. This chapter will sketch how we have arrived at the conviction that this complicated condition represents, at its core, an inherited biological impairment of brain development. The majority of cases of ADHD appear to reflect abnormal brain development beginning prior to birth which later results in abnormal brain structure, incorrect transmission of messages throughout the brain, and faulty chemical functioning within the brain. One important clue into this abnormal biology is that stimulant drugs, the most effective treatment for ADHD, appear to have a normalizing effect, correcting the imbalances that are believed to produce ADHD symptoms.

How the child is treated and raised can affect the severity of his problems, but it cannot cause the problem. Certain types of childrearing may make the problem worse; certain

types may make the problem better. However, no types of upbringing, even those which border on abusive, can produce ADHD in a child who is not genetically predisposed to it. Because childrearing techniques can to some degree affect the seriousness of the ADHD child's problems, improvements in these techniques are usually helpful. They will be discussed in Chapter 5 on treatment. Even though such psychological approaches can be helpful in the management of the ADHD child, the basic source of his difficulties is biological and inborn.

## GENETICS OF ADHD

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That ADHD is genetic is not surprising. As every grandmother knows, there are inborn temperamental differences among children. Studies of the growth of children from infancy to preadolescence reveal that children differ from one another from their earliest days and that some of these differences tend to be associated with behavioral problems as the child grows up. For example, the difficulties that the ADHD child is likely to have in infancy (colic, feeding problems, sleeping problems) are probably the result of inborn temperamental differences. Moreover, it is a common observation that particular kinds of temperament tend to run in families. In some families, the children are high-strung (like fox terriers or cocker spaniels), whereas in others the children are more placid (like golden retrievers). Any temperamental characteristic is not an all-or-none trait. It is like height. There are all degrees of tallness, from the very short to the very tall. Most people who are very short or very tall do not suffer from a disease, although it may be

very inconvenient to be 4' 6" or 7' 2". Similarly, most degrees of high-strungness do not cause problems unless they are excessive. All the traits of ADHD children that we have discussed occur in all children. At times, all children have short attention spans, are restless, and are intolerant of not getting what they want. ADHD children have these characteristics to a marked degree. They are often, in a sense, extremes of the normal, as are very short or very tall people. Their characteristics are too much and too little of certain normal traits.

In families in which ADHD occurs, parents will frequently tell us that they had similar problems themselves when they were the age of their ADHD son or daughter. Being aware of this similarity can be useful or harmful, depending on the circumstances. It can be an advantage when the parents remember the problems they faced and the techniques that were most helpful in dealing with them. This may provide useful insight for helping the child. The awareness can be harmful when the parents play down the difficulties from ADHD. If the parents are unwilling to acknowledge, even to themselves, that ADHD caused them difficulty (or still does), they may minimize the problems it is causing the child. If this happens, the parents may neglect serious problems in their child that require recognition in order to be alleviated.

As scientists have studied ADHD children, they have begun to examine the psychological problems encountered among close relatives, particularly siblings and parents. They have observed two important factors. First, the siblings of ADHD children are more likely to have ADHD problems than are the siblings of children without ADHD. Second, as indicated earlier, the parents and other close relatives of

ADHD children report that they had such problems themselves as children (and, as we will see later, many probably have them as adults). Reduced to numbers, the sibling of a child with ADHD has perhaps a 25–30 percent chance of having ADHD himself, and each child of a parent with ADHD may have about a 50 percent chance of suffering from ADHD. In short, ADHD runs in families.

The psychiatrists who made these observations did not know at first whether the disorder was really hereditary or not. Perhaps parents who were psychologically disturbed brought up psychologically disturbed children. This would not be genetic but would be a form of psychological heredity. Not everything that runs in families is genetic. And how strongly something runs in a family does not tell us if it is transmitted genetically or through learning. All the offspring of Chinese-speaking parents speak Chinese—this is 100 percent learned. A fairly small fraction of the children of a redheaded parent have red hair—and having red hair is a trait that is hereditarily transmitted. The difficulty in the case of ADHD is one of separating nature from nurture—of separating problems due to genetics from those caused by the way one was raised.

Investigators have tackled this problem in ingenious ways. First, they have studied ADHD in twins. What they found from the twin studies is that identical twins (those having identical genes) are both likely to have ADHD if one twin has it while fraternal twins (born together but sharing genes similar to any other two siblings) are no more likely to both have ADHD than any other brother or sister combinations. In other words, genes do matter, a lot. If one identical twin has ADHD, the other twin will have an 80 percent chance of suffering from it himself, on average.

In a second scientific approach, investigators have studied ADHD in children reared by adoptive and foster parents and who have had little exposure to their biological parents. This has permitted scientists to separate the influence of genetic factors from the biological parents from the social factors encountered in the family in which they were raised. The conclusion from several studies is that the biological parents and siblings of adopted children with ADHD are at increased risk to have ADHD themselves while the adoptive parents are not. Stated differently, adopted children with ADHD are more likely to resemble their biological parents and siblings, even though they were not raised by them. The implication is that rearing factors do not play a primary role in the development of ADHD and that the disorder is being transmitted genetically. On the other hand, although these genetic findings suggest that certain types of parents are more likely to have ADHD children, the studies do not indicate that such parents will inevitably have them.

Although twin and adoption studies have made an inherited basis to ADHD almost certain, recent investigators have been searching for the specific genes involved. However, this is a complicated and often slow process. It may involve studying the entire genome (the complete set of a person's genes) of numerous people with ADHD to see what ADHD-likely genes are most common. Or it may involve looking in people with ADHD for genes thought to be involved in causing the condition to see if those genes really are present. Or it may involve looking for genes that are thought to be potentially responsible for conditions often associated with ADHD such as conduct disorders, learning disorders, alcohol abuse, and autism. Results from all these efforts have come only with the gradual collection of diverse

information from hundreds of researchers. At this point there is no suggestion that there is “a gene” for ADHD.

## THE BRAIN IN ADHD

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A child with ADHD has inherited brain abnormalities responsible for the disorder. Key parts of the brain appear smaller and underdeveloped for the child’s age, particularly those parts shown to be responsible for ADHD symptoms. The brain as a whole may even be slightly smaller (although this does not mean there is lowered intelligence). But it is not so much the size of these parts that is crucial, but how their cells are connected to other cells throughout the brain. Almost all of our thinking and behavior is determined by the smooth flow of information from one place to another.

The brain is an extraordinarily complex interconnection of almost 100 billion nerve cells. In some ways, the brain is analogous to a telephone network, but with one major difference. In the telephone network, the connections are *electrical*; electricity passes from one wire to another by physical contact. In the brain, however, the connections are *chemical*. One nerve cell releases a small amount of certain chemicals (such as the dopamine mentioned earlier), which are picked up by the second cell, causing it to “fire.” These chemicals are called *neurotransmitters*. If there is too little of a particular neurotransmitter, the second cell will not fire because not enough of the neurotransmitter has been released by the first cell. Although the nerve cells themselves are intact, it is as if the connection were broken. There are different neurotransmitters in different portions of the brain. If the amount of one neurotransmitter is insufficient, the portion of the brain

that it operates will not function correctly. ADHD children are probably deficient in some neurotransmitters.

At birth the normal brain is very immature and underdeveloped but then adds neurons and grows rapidly to the point that it has too many cells. It has to reduce unnecessary neurons so by the late teens or early twenties the brain has mostly those neurons and interconnections found useful to function in the environment it has experienced to that point. The quality of the person's behavior over those years parallels these brain changes. As a four-year-old, he has limited attention and his neurons and connections are rapidly growing but chaotic. By age ten his attention has improved (but is not perfect) and serious reduction in the number of neurons has begun. By age twenty he has the focus and concentration of an adult and much of the brain organization he is likely to keep for the rest of his life. Most other complex functions follow the same pattern, becoming more capable as the brain matures. On the other hand, the child with ADHD seems to act like a child three or four years younger and displays developmentally inappropriate levels of inattention, hyperactivity, and impulsivity. His brain resembles that of a less mature child as well and is likely to have critical areas that are poorly developed. Numerous studies conducted over the past half dozen years have demonstrated that the connections among brain cells for functions such as attention that are impaired in ADHD are abnormal and not fully developed.

These abnormalities appear to have been present from a very early age and presumably since birth, suggesting that it is a developmental process. These underdeveloped areas make it difficult for the developing child to form full and healthy connections among cells. Even in adults who may



have only minor symptoms of ADHD, these locations may be smaller. And the more severe the adult's symptoms, the smaller the layer of nerve cells is likely to be. On the other hand, if a child's ADHD symptoms gradually improve over time, these locations are likely to have thickened and his cell connections to have become more normal. Also, it is important that neurochemical studies have found the neurotransmitter that conducts signals at many of these sites is dopamine, the very neurotransmitter elevated by the stimulant medication that is so effective in treating ADHD. Even more interesting, when a person with ADHD is treated with stimulants, the activity of malfunctioning cell connections seems to normalize. In other locations the neurotransmitter is norepinephrine, another chemical affected by medication felt to be useful for ADHD.

These anatomic and chemical differences are generally thought to be inherited, part of the individual's genetic makeup. Could they also be partly the result of a misstep in the development of the baby before birth? That is, could ADHD be produced because the chemistry or structure of the brain has been altered during pregnancy or birth? Little is known about prenatal influences, but there is some possibility that extremely small birth size—and therefore prematurity—may sometimes lead to ADHD symptoms. Similarly, other variations in the mother's biological processes during pregnancy might result in fetal maldevelopment. These are discussed later in this chapter. However, much more frequently, genetic origins have been observed. For example, most of the chemistry in the body, including the brain, is controlled by our genes. Just as with ADHD, traits such as hair color, eye color, or certain forms of mental deficiency also tend to run in families, and these traits are related to the production

of particular chemicals in the body. Genes determine the amounts and types of these chemicals. Certain genes may also control the amounts of brain neurotransmitters, and a few genes may result in decreased availability of these neurotransmitters. Some of these neurotransmitters are located in portions of the brain that include among its functions the regulation of attention. An excess of these neurotransmitters might produce an increased ability to focus attention and inhibit behavior, to control oneself. A deficiency in these neurotransmitters—which is probably the condition present in ADHD children—would produce an underactivity of that portion of the brain, resulting in attention difficulties and some lack of self-control. These portions of the brain probably also act to modulate the mood and increase appropriate reactions to things going on outside the child. Therefore, decreased availability of neurotransmitters in this area would result in a decreased ability to focus attention; a decreased ability to check one's behavior—to apply brakes; a decreased sensitivity to others' reactions—to do's and don'ts, and approval or disapproval; and a decreased ability to moderate mood—that is, an increased tendency toward sudden and dramatic mood changes.

## OTHER CAUSES OF ADHD

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Although inherited brain abnormalities are far and away the most frequent causes of ADHD, physicians have investigated several other possible causes. These include, among others, complications during pregnancy, prematurity, and difficulty at birth, particularly with loss of oxygen, lead exposure, and a mother's use of tobacco or alcohol while pregnant. What

is common across many of these is that each reflects possible damage to the developing brain, often in those areas thought to be involved in ADHD. Some experts believe that such brain trauma can mimic ADHD but will not produce the full ADHD spectrum of symptoms without most of the genes for that disorder. There are several events that are well documented to occasionally lead to hyperactivity, inattention, impulsivity, and ADHD.

As had been mentioned in the previous section, an unpredictable but clear route to ADHD is impairment of fetal development during pregnancy that results in a low birth weight infant or prematurity. A difficult and prolonged delivery, particularly one that results in brain damage to the infant, is also a risk factor. In short, anything that damages or impairs the developing brain puts the child at risk for symptoms of ADHD. Any damage to the frontal lobes of the child, the most advanced and “thinking” part of the brain, is particularly worrisome.

Toxins present another risk. Developmental neurotoxins are common in our modern environment from pesticides to the output of smokestacks, but very few clear associations have been made. However, there are a few. One possible but sporadic cause of ADHD is cigarette smoking by the mother during pregnancy. How this occurs is not understood, but cigarette smoke is a well-known danger to the developing fetus of which women should be made aware. Smoking can lead to premature delivery, which is also a risk for ADHD. Alcohol can be a damaging toxin since ADHD occurs with an increased frequency among children born to mothers who abuse alcohol or even are alcohol dependent while pregnant. Babies born to mothers who are abusing crack cocaine and possibly other drugs during pregnancy are at a high

risk to display ADHD and learning disabilities later. Finally, exposure to lead in childhood from lead paint and lead paint dust as well as gasoline is a well-known, but diminishing hazard since tight environmental controls have gone a long way to eliminating exposure from those sources. However, the remains of lead paint still contaminate our inner cities and pose a risk to children who grow up there.

No matter how the ADHD child's problems arise, they frequently lead to typical difficulties within the family. Some psychiatrists and psychologists see the family stresses as a cause of the ADHD child's problems. Sometimes they contribute. Very often they are not but are instead understandable reactions to the burden of the child's unpredictable and difficult behavior. On the other hand, it is well known that a turbulent, unsupportive, disorganized family that exposes the child to abuse and neglect is likely to make his ADHD worse.

## THE EFFECTS OF ADHD BEHAVIOR

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In any given child, it is impossible to say how much of his personality and behavior is due to his temperament (nature) and how much is the result of his life experience (nurture). By the time he is six or seven, his temperament has affected his behavior, which in turn has affected others around him, and their reactions in turn have affected him. For example, an aggressive child (not necessarily an ADHD child) will have bothered others, who in turn may have gotten angry, and then punished and rejected him. The child feels rejected because he has been rejected (experience), but he has been

rejected because he has been aggressive (temperament). Furthermore, a rejected child is more likely to feel frustrated and act aggressively. Temperament and experience snowball; they move in a vicious circle. We will soon discuss the sorts of vicious circles that ADHD children get into.

The central inborn temperamental differences in ADHD children often include the following characteristic problems that we have mentioned: (1) inattentiveness and distractibility, (2) impulsivity (the inability to inhibit oneself—to say “no” to oneself and follow through), (3) restlessness, (4) demandingness, (5) academic underachievement, (6) hyperreactivity, (7) low tolerance for frustration, (8) temper outbursts, (9) bossiness and stubbornness, and (10) instability of mood—easily becoming depressed or excited. These traits are biologically caused. They are *not* caused by the child’s upbringing. However, these inborn traits affect experience and can also be affected by experience. We will now discuss the ways in which this can happen.

## PROBLEMS WITH SOCIAL BEHAVIOR

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School problems were mentioned in the previous chapter and particularly how inattentiveness, distractibility, lack of stick-to-itiveness, and learning disorders (when present) interfere with academic progress despite the presence of a normal intelligence. Even if the ADHD child does not have special learning difficulties, he will have a harder time learning than his intellectual peers will. To learn, a child must be able to tolerate frustration. Some subjects are hard to understand and cannot be mastered without stick-to-itiveness. To

learn, a child must pay attention. Intelligence is *not* enough. If the child cannot pay attention to what is being taught, he is, for all practical purposes, not there. To learn, a child must have patience. Elementary school requires a good deal of (boring) repetition, practice, and drill. A child who cannot force himself to complete tedious, disagreeable school tasks will have trouble in mastering reading, spelling, and arithmetic. The ADHD child is highly likely, therefore, to fall behind and become an underachiever. As the child gets further behind, he will experience more frustration and criticism from teachers, parents, and fellow students. His parents will nag him for not doing his homework. He may be placed in a catch-up class or a special learning disability class. He will regard himself as stupid and may be taunted as “retard” by other children.

The problems of the ADHD child change as he becomes older and progresses into advanced grades. Entry into junior high school amplifies his problems for several reasons. First, junior high school is less structured. The ADHD child must monitor himself to be sure he goes where he is supposed to go at different times. Second, he has a number of different teachers. Because they know him less well than his elementary school teacher did, they are less likely to appreciate the possible strengths beneath his obvious weaknesses. Third, he begins to get homework that requires planning and application. No matter how smart he is, to be successful he must approach his homework systematically. In subjects requiring reading and outlining, he may be particularly handicapped. For all these reasons, if ADHD persists, academic problems typically increase in junior high school. These realistic problems combined with the special psychological problems some ADHD children develop in adolescence, along with

the typical psychological problems that often affect non-ADHD adolescents, can make the early teens a very difficult period for the ADHD child.

Lack of success breeds low self-esteem and lack of enthusiasm. Even if the ADHD youngster outgrows his distractibility and inattentiveness, he may be so far behind and so soured on school that he only wants out. Although he may now be “normal” physiologically and although the temperamental problems may have diminished or disappeared, he is so scarred by school that he has acquired a marked distaste for it and may even drop out.

## RELATIONSHIPS WITH OTHER CHILDREN

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Because of their bossiness, their teasing, and their “play it my way or not at all” attitude, some ADHD children are more likely to be disliked by other children, and since they may not be very sensitive to the feelings of others, they may constantly do the wrong things. (This applies only to those ADHD children who are bossy—some, not all.) Even if they are not bossy, other problems associated with ADHD may interfere with their peer relations. If the child is a boy and has coordination problems, the social problem may be worse. If he is chosen eighteenth when baseball teams are chosen, he may think little of himself. If, in addition, he has a temper tantrum when he strikes out, his popularity will not go up. To be liked, he may resort to a number of maneuvers that may get him in trouble with both children and adults. He may boast, brag, lie, clown, or show off. As he gets older, he may try to prove his worth by doing the

most dangerous, and most self-destructive, things: stealing, climbing to the highest place, and so forth. Note how the temperamental characteristics (demandingness, hyperactivity) lead to experience (rejection) that can lead to misguided attempts to improve relationships; the resultant social complications may reinforce the low self-esteem and make social interaction even more difficult.

In his relationships with his brothers and sisters, the same temperamental problems lead to other social difficulties. All brothers and sisters are jealous of one another from time to time. The ADHD child's behavior and the reactions that it produces in his parents predictably worsen the envy and resentment between him and the other children in the family. All the problems ordinarily associated with these sources of jealousies are aggravated and intensified. The ADHD child's brothers and sisters who do not have ADHD are probably favored because they are "good children" and he is "bad." They get more praise, he gets more blame, and he is jealous of them. On the other hand, he receives more attention than they do—because he demands and requires it—and they may be jealous of him. Endless squabbling is often the result. Another, and unexpected, complication sometimes occurs if the ADHD child is treated and improves. The "good" children start showing problems! There are two explanations for this: first, they may previously have had problems but no one had noticed because the ADHD child's problems had been so much greater; second, the other children may have had no problems but have probably enjoyed their identification as the good children. When their ADHD brother or sister improves, they lose their enviable position and then display behavior that is very similar to the reactions of a child when a brother or sister is born. They may



become jealous, act immaturely, and demand more attention. Fortunately, this does not always happen. We mention it only because it is upsetting when it occurs unexpectedly and is less upsetting when one knows that it can occur.

## RELATIONSHIPS WITH PARENTS

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The ADHD child's relationship with his parents is burdened by the difficulties encountered throughout his development. Because of his temperamental problems, the ADHD child often tends to be unsatisfiable from infancy. The mother cannot stop his colic, cannot handle his sleep disturbances, cannot satisfy him or make him happy. As he grows older, his hyperactivity, his impulsivity, and the other behavior problems already discussed add tensions to family life. Nothing the parents seem to do helps very much or for very long. Probably the most common parental complaint is the difficulty in disciplining the ADHD child. The child is inattentive and rapidly forgets. He is told to clean his room, but when he is half-finished (or one-tenth finished), he starts doing something else. He is told not to jump down the stairs, stops for a while, and then impulsively does it again. He is not totally unresponsive to discipline. But he is much less responsive than non-ADHD children. If parents are very firm and very consistent, they will find that the ADHD child can be disciplined—at least to some extent. However, complete consistency is nearly impossible. If they are not firm and not consistent, they may discover that he is almost totally out of control. How he is handled will often (not always) make a large difference. This is obviously of great importance in management and will be discussed in Chapter 5.

The difficulty in controlling the ADHD child's impulsivity has several disturbing effects. First, the child is a disappointment to the parents. Second, the child's chronic misbehavior is likely to make the parents angry. Third, the parents may see themselves as inept and inadequate. These feelings bring further emotional complications because the parents believe they are not "supposed" to frequently feel angry toward their children. There are many emotions that people are not supposed to feel. One should not hate one's parents or one's child or envy one's sister. But such feelings do arise and, when they do, people tend to suppress them. They pretend they are not there, they ignore them, and they refuse to acknowledge them. Often people are successful in these attempts, and most of the time, they are unaware that these feelings exist. Every now and then, however, in everyone, such feelings break through. When they do, one usually feels bad and guilty. When the parents of the ADHD child become aware of their angry feelings, they feel even more inadequate, and guilty and depressed as well. These feelings not only are highly distressing but also are likely to lead to techniques of childrearing that aggravate the ADHD child's problems. Because reward and punishment seem ineffective in discipline, the parents are already confused, frustrated, and baffled. The anger the child engenders may make the parents act with excessive harshness. They may remove bicycle or TV privileges for a week. They may spank the child a little too hard. The parents' awareness of their severity (to a small child!) tends to produce further guilt, which leads them to try to atone by being more lenient. Frequently, this leads to a pattern of alternating excessive discipline and excessive permissiveness, a pattern that is the opposite of the consistent atmosphere in which the child

functions best. It may be that the child's behavior is making his parents behave inconsistently, or—and here is a further complication—since ADHD is genetically transmitted, the child is fairly likely to have one parent whose ADHD symptoms have not disappeared. If those symptoms have been present, he has a parent who has been inconsistent, hot tempered, perhaps harsh and likely unpredictable. This contrasts with the parent he needs: one who is consistent, even-tempered, tolerant, and predictable.

The ADHD child is likely to feel that he is being treated too harshly and may feel resentful. But he only has limited ways of fighting back. He may comply resentfully, doing the job to the letter, but not in the spirit of the law. He may merely appear to comply. He may, at the risk of further punishment, dig in his heels and be negative, ornery, or stubborn. He may attempt to strike back by doing annoying, naughty, or hurtful things on another occasion. Nobody likes always being told what to do and what not to do. Even if the parent is a saint, the ADHD child (who finds it difficult to inhibit himself) will feel as if he is receiving more than his share of do's and don'ts and will be more inclined to stiffen his back in protest.

This friction leads to problems in other areas. As the parent-child problems multiply, the ADHD child will feel angry with his parents, but if he expresses anger at a loved one, he runs the risk of driving the loved one away. So in some cases, his anger may not be expressed very directly. Instead, it may spill over and get taken out on a relatively innocent bystander, such as a playmate or teacher. Or this anger can also be completely bottled up only to “explode” in accidents in which they hurt themselves or in behavior that results in humiliation or punishment.

To further compound and complete the difficulties, the child's behavior often causes disagreement and dispute between the parents. Both parents perceive the child as behaving poorly, and each tends to blame the other for disciplining or treating the child inadequately. In particular, the father is apt to notice that he is more effective in controlling the child. He is, of course, less frequently around the home, and when he appears, he is likely to lower the boom, with the result that the child heaves to, at least briefly. The father's natural remark to his wife is: "I can control him—why can't you?" His wife, who spends much more time with the child, replies, "You can't treat him like that all day long," and the fight begins. Many parents have different views on how much strictness and severity are necessary in discipline. A parent whose own experience as a child has been with harsh discipline tends to favor this approach, and one whose experience has been gentler is likely to oppose it. Consequently, one sometimes sees the formation of family triangles. One parent will be cast in the role of the child's defender, while the other becomes the prosecutor. The prosecutor parent, who is the odd man out, then has an additional problem. Not only does he (or she) have a difficult child but also his (or her) spouse is siding with the child against him. The parent who has been pushed out then feels jealous of his own child. Again, jealousy is one of those feelings that parents are not "supposed" to have, but do. Brief reflection about one's own family or the families of friends should quickly bring to mind numerous illustrations of the complications, animosities, and guilt that can ensue.

Contrary to usual belief, family disturbances are often the result and not the cause of a child's problems. Certainly, these parent-child relationship patterns are not seen in

all families with ADHD children, and not even in most of them. They have been presented to illustrate how temperament in the child can produce changes in those around him, which in turn will produce psychological changes in the child. Notice that the temperament of the parent is very important in this equation. If the parent is hot tempered or impulsive because of either temperament or experience, he or she is more likely to become involved with and intensify the child's problems. Parents of ADHD children need to pay a great deal of attention to detail, must keep themselves from overreacting, must not let feelings of frustration, disappointment, or anger influence the child, and should be unusually well organized.

## **THE CHILD'S FEELINGS ABOUT HIMSELF**

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Although the ADHD child sometimes feels anger in response to his parents' reactions to his behavior, he more often has other reactive feelings that are more self-destructive. Because the ADHD child is rejected, criticized, and told he is exasperating, he will feel sad, unlovable, and unworthy, and think poorly of himself. His teachers are likely to say such things as "You are bright enough to do better. Why don't you try harder? . . . You could do better if you cared" (adding "like your brother or sister"—if they attended the same school). He is unpopular with his peers. They choose him less for games or not at all. He is not invited to parties or sleepovers. Because he is unpopular and highly reactive to teasing, he is frequently teased. His parents are usually exasperated. They continually express their annoyance, anger,

or disappointment with him. Even if they do not openly compare him with his brothers and sister, he can see that his parents like his siblings more. Parental self-control can diminish these feelings, but it cannot prevent them. Even though he is somewhat thick-skinned and even though people may say nothing, the child cannot help noticing how people react to him.

Our self-esteem is formed on the basis of others' response to us. We learn that we are attractive, nice, or bright, depending on whether others consider us good-looking, pleasant, and intelligent. The ADHD child has a low opinion of himself. This is not neurotic; it is rational. He is failing at school, with his peers, and with his parents. He fails in all the important area of a child's life. He feels he is dumb, lazy, disobedient, and unlikable because that is the way his world regards him ("bad and dumb").

Obviously, anything that can help the child change his behavior will prevent him from suffering the consequences of that behavior. Although a child may eventually outgrow the physiological and the temperamental problems, the psychological difficulties he has had because of the temperamental problems may persist. He will have learned—and not forgotten—patterns of psychological maladjustment. On the other hand, if the physiological problems and symptoms can be kept in check until he outgrows them, he will avoid many bad experiences and grow up more easily. He will do better in school and enjoy better relationships with his family and friends. He will not suffer severe consequences from his attention-deficit hyperactivity disorder. Many ADHD children can now be helped to achieve this major goal, as we will see in Chapter 5.



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## THE DEVELOPMENT OF THE CHILD WITH ATTENTION-DEFICIT HYPERACTIVITY DISORDER

IN CHAPTER 2 ON THE CHARACTERISTICS of the ADHD child, we discussed the problems a child with ADHD encounters, and how these change as he grows. We also mentioned that the sequence of problems is not inevitable. ADHD children may grow out of their problems as they become older. An obvious and reasonable question that parents often ask is what will be the fate of their ADHD child. Twenty-five years ago, we did not know. This question is now easier to answer.

Because of new clinical information, we are obtaining a picture of the changes in the condition over time. The information comes from two sources. The bulk of these new investigations study various features of ADHD children over short periods of time. These studies are numerous and have taught us a lot. The second source of information about the adult outcome of ADHD children is from a growing number of longitudinal scientific studies, some started as many as forty-five years ago, that have systematically followed and compared groups of ADHD children to groups of



non-ADHD children and have evaluated them through adolescence, young adulthood, and in one case into their forties.

## SHORT-TERM STUDIES

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Physicians who have treated “hyperactive” children over a period of years have repeatedly noted that in some of the children the problems tend to change, become less severe, and disappear with age. This sort of progress caused some physicians to label ADHD a developmental lag. (The implication is that the ADHD child, who is immature, is like a child who is unusually short for his age. Both are likely to catch up, to become mature or taller, but later than most children.) In many ADHD children, some of the more troublesome symptoms gradually diminish and finally disappear around the time of puberty; in some children such improvements may occur earlier and in some later. However, recent studies indicate that up to one-half to two-thirds of ADHD children will not outgrow their symptoms in adolescence and will have continuing problems in school, with their families, and with their peers. In all ADHD children, some symptoms change and disappear. The ADHD child may wet his bed longer than the child without ADHD, but he does not wet his bed forever. Similarly, restlessness and fidgetiness may diminish with age. However—and this is extremely important—even though these symptoms may vanish, other ADHD symptoms may persist. Difficulty in concentrating, lack of stick-to-itiveness, and impulsivity may remain. Obvious hyperactivity may have disappeared, whereas many of the other problems may linger for years. Many adults continue to have ADHD-related problems. The practical consequence

is that treatment, when effective, may need to be continued for many years, and perhaps indefinitely, after the most obvious and distressing symptoms have vanished.

In considering the practical implications of the later development of the ADHD child, one must ask this question: "Is the persistence of symptoms due to the persistence of the temperamental (biological) problems, or is it due to maladjusted patterns of behavior that were learned because of the (no longer existing) temperamental problem?" The question cannot be answered in a general way, but a sensitive clinician can often give an approximate answer for a specific individual. In some persons, the problems do seem to persist because of the persisting temperamental difficulty. In others, the persistence of symptoms may be the result of behavior that was learned and now remains, so to speak, as a habit. (Similarly, a child who had broken his right arm and learned to write with his left hand might well retain indefinitely the ability to write with his left hand even after the fracture healed.) Some persisting symptoms were originally considered psychological but now seem of physiological origin. For example, when adults in their thirties and forties with ADHD symptoms are given drug treatment for the first time and it is effective, they usually demonstrate greatly improved attention span, increased organizational abilities, and substantial improvement in several other areas (accompanied by an increase in self-esteem) that will be discussed in Chapter 6. Medication changes brain chemistry; it does not correct inadequate learning. The implication of this observation is that the persisting organizational problems were the result of abnormal brain biology, not the inadequate *learning* of organizational skills.

The temperamental difficulty often responds well to medical treatment. This will be discussed in the next chapter. Some behavior is learned better and embedded more deeply if it is learned when young and is hard to change when older. If the immigrant learns a second language when he is ten or twelve, he may always speak it with the accent of his first learned, native tongue. If children are exposed to a foreign language before they are five or six, they learn it more easily and remember more of it than does an intelligent adult, and they usually can speak it without an accent. Habits and attitudes, like skills, are learned more quickly and better when young, and habits learned when young are harder to unlearn. On the other hand, some personality traits and attitudes developed in adolescence can be very durable, so it is desirable that the child have every physical and psychological advantage as he approaches that period. For example, in one study thin adult women who had been fat in childhood or adolescence were asked how they regarded themselves. Interestingly, only those women who had been fat in adolescence had suffered psychological effects and continued to regard themselves as unattractive, despite the fact that they were thin adults. Attitudes learned during the teenage years had stuck with them. The relevance for ADHD children, we hope, is obvious. The sooner that maladaptive learning can be prevented the better, for the child will have less difficulty in adolescence and later life than he would have otherwise. However, if such habits or attitudes are learned, the outlook is not grim. Learned habits can be unlearned, skills can be acquired, and new experiences can change personality throughout one's life. Chapter 5 will consider some psychological approaches that are pertinent here. But from what we know about children's growth and development,

*early treatment would seem to be more effective than later treatment.*

When ADHD symptoms persist to a significant degree into adolescence, special issues arise because the ADHD problems interact with normal psychological changes that occur when a child is undergoing adolescence. From school age on, children's peers play an increasingly large role in their social development. As children enter adolescence, the impact of their friends becomes even greater. Parents may become distraught as they become aware that their adolescent child adopts values of his peer group that are in opposition to previously accepted home values. The adolescent is strongly motivated to form close relationships with his peers. Intimacy with equals replaces intimacy with parents. Adolescents confide in each other, but often mumble or are mute with their parents.

However, forming relationships with peers is sometimes a problem for the preadolescent ADHD child. For the ADHD adolescent who continues to lack social perceptiveness and interpersonal skills, problems with peers continue. If his ADHD handicaps affect the kinds of talents that make adolescents popular—for example, if he is poorly coordinated in athletic performance—he is additionally limited in making close friends. The lack of peer acceptance in adolescence is even more painful than it is in childhood.

Some ADHD children seem to get less pleasure from the activities that other children enjoy. They may require excitement and dangerous situations to experience the pleasure that other children derive from less stimulating activities. The search for excitement along with the combination of continuing low self-esteem (amplified by peer rejection), impaired social skills, and impulsivity increases the

possibility that the ADHD adolescent may associate with delinquent peers.

One of the major areas of psychological growth in adolescents is development of autonomy—feelings of self-sufficiency and freedom from one's parents. This is a healthy pattern, even if it causes temporary conflict between parents and the adolescent. The severity of the conflict may depend on how the adolescent expresses increasing autonomy. Preferences for current adolescent fashions in music, hair-styles, and clothing may produce mild parental irritation, but idealistic or activist political positions at variance with parental ones, or becoming a member of a social outgroup, can result in serious disruption of family bonds.

Another important adolescent developmental task is establishing sexual relationships, which requires social ease and social skills. Because of his social obtuseness, the ADHD adolescent may not be shy, but because of his social ineptitude, he may stand a good chance of being unsuccessful in sexual relations. On the other hand, a number of studies have documented that the ADHD adolescent begins a pattern of earlier sexual activity, more casual sex and sexual partners, and greater likelihood of contracting a sexually transmitted illness that then may continue into adulthood.

Still another area—most conspicuous in those who showed insufficient conscience as children—is continuing problems with self-control. Self-control involves a number of psychological attributes in which ADHD adolescents tend to be deficient: control of impulsivity, empathy, and ability to perceive one's effect on others. These deficits are characteristic of social immaturity and increase the possibility that the ADHD adolescent will become involved in delinquent acts. And indeed, systematic studies have shown

that in adolescence ADHD children *are* much more likely than their non-ADHD peers to develop problems with alcohol and drug abuse, experience serious accidents, and become involved in antisocial behavior. These studies are of *untreated* ADHD adolescents and may have included those with undiagnosed conduct disorder who are chronic rule-breakers.

## LONGITUDINAL STUDIES

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The other approach to determining the changes in ADHD with time that was mentioned before—longitudinal studies—has been of particular help in clarifying what happens in adulthood. The longest of these has run for thirty-three years and provided information about ADHD into a person's forties. Several other similar studies of shorter duration have been done more recently in places like Montreal, Milwaukee, Pittsburgh, and Chicago. Adding the findings from all this work together, we are developing an idea of what happens to ADHD as people age.

Perhaps the best known, largest, and longest study took place in New York City. Approximately two hundred children with ADHD but without ODD or CD and a matching group of non-ADHD boys who were first seen between the ages of six and twelve were reinterviewed at an average age of eighteen, then at twenty-six, and most recently at forty-one. Investigators found that at age eighteen, 40 percent of the original ADHD children continued to have major problems with ADHD symptoms whereas at age forty-one it was 22 percent. Also, a general conclusion from the study was that the ADHD patients “had significantly worse

educational, occupational, economic, and social outcomes, and more divorces than comparisons.” These figures almost certainly underestimate the persistence of the children’s problems. For example, the persistence of ADHD into a person’s early twenties is much more likely to be in the neighborhood of 50 percent of the children rather than the lower percent found in the study. The investigators based their diagnoses only on the children’s report of symptoms; they did not interview their parents. We know that ADHD children at all ages—as well as ADHD adults—underestimate the extent and seriousness of their problems. When we interview adults with possible ADHD parents—and the adults’ partners—we find that a much higher proportion are reported to have problems than the patients report themselves. This probably represents a serious understatement because they did not interview parents or other informants, and we know from our clinical work with ADHD adults that many patients see their ADHD problems as mild or minor; their partners see them as having moderate to severe problems. After an average of thirty-three years in the study, the persons who had ADHD as children, when compared to those who entered the study without ADHD, showed many differences as adults, including three times as many incarcerations, three times as many divorces, three times as much drug and cigarette use, four times as many psychiatric hospitalizations, very little higher education, and \$40,000 less annual salary on average. Two additional important findings were that, at all ages, the ADHD children were much more likely to develop problems with conduct (oppositional defiant disorder and the more severe conduct disorder) and substance abuse, even though when they entered the study they had neither. Even more worrisome, they had a

noticeably increased likelihood to have developed antisocial personality disorder, an adult version of a particularly severe form of conduct disorder and criminality.

The relationship between ADHD and substance abuse in adult life is not clear. A number of studies of alcoholics have suggested that ADHD children may possibly be more likely to abuse alcohol but have been shown to be more likely to abuse other substances. However, some of these studies did not separate children with “pure” ADHD from those with mixed ADHD and conduct disorders. It may be mixed ADHD/conduct-disordered children who are more likely to abuse alcohol. From a practical standpoint, about one-quarter of ADHD children have an alcoholic parent.

There is one extremely important feature of these longitudinal studies to keep in mind. The children participating in the research either did not receive or continue to receive treatment with medication, counseling, or remedial education. These studies tell us only what will happen if we do not provide continuing treatment to ADHD children. So what are the conclusions? They are three. First, ADHD probably continues to cause definite problems in adult life in one-third to two-thirds of individuals. Second, ADHD children, particularly if they have oppositional defiant disorder, are much more likely than normal children to develop conduct disorder. Third, ADHD children, possibly only if they have conduct disorder as well, are probably more likely to develop alcohol and other substance abuse disorders in adolescence.

These conclusions may be disheartening. However, early and well-administered medical treatment, in combination with well-managed psychological treatment, may prevent—or greatly reduce—the psychological symptoms that develop on the basis of the physiological abnormalities. Such treatment,



of course, does not cure the underlying physiological abnormalities, and perhaps the reason that some treatment programs in the past proved ineffective may simply be that they did not continue to administer medication as long as ADHD symptoms persisted. Without treatment, the number of children who continue to have problems is larger than was previously believed. Because we now have evidence that many ADHD children still have the same physiological difficulties in adult life (inattentiveness, hot temper, not being to complete tasks, and so on) and continue to respond to medication, it seems obvious that some ADHD children may benefit from—and may need to take—medicine for many years after childhood. Can such treatment prevent ADHD problems later or enable the children to deal with them more effectively? The answer appears to be a guarded “yes,” although the studies remain to be done.

Recently, those of us who are doing research in ADHD have discovered that in a fairly large number of instances, ADHD problems persist into the thirties, forties, and fifties. And during the last few years, recognition of ADHD in adults has exploded (and, probably, sometimes been *overdiagnosed*). We first became aware of ADHD in adults in talking to the parents of ADHD children. Frequently, the parents mentioned that they had been inattentive and hyperactive in childhood, and many reported that some of their problems had become less severe with age but still bothered them to an annoying degree. These adults differed from ADHD children, not only in that some of the problems were less severe than they had been but also in that they had developed adult ways of coping with them. Of particular interest—and practical importance—was our discovery that many of the adults who continued to suffer from ADHD problems could

benefit from treatment with medications as much as ADHD children.

Similarly, learning disorders may persist well into the thirties and forties. There is an overall tendency for learning-disordered children to fall further and further behind with age. A large fraction of learning-disordered children continue to have serious problems well into adult life. In others, some improvement occurs, but learning-disordered children often continue to be slow readers and poor spellers, and if they have had difficulty with arithmetic, they continue to have problems in performing mathematical calculations.

How can we best summarize the findings to date? How frequently does ADHD persist into adult life? The crude estimate seems to be between one-third and two-thirds. The severity varies considerably, from those having mild symptoms of inattentiveness and disorganization—and perhaps restlessness—to those with a persistence of childhood symptoms that may have changed their form with maturity. The best estimate at this point may be that approximately one-half has significant symptoms and negative outcomes, one-quarter has moderate symptoms, and one-quarter has limited symptoms or no symptoms at all, although different investigators come up with different figures. The exact nature of these persisting symptoms will be discussed in Chapter 6.



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## TREATMENT OF THE CHILD WITH ATTENTION-DEFICIT HYPERACTIVITY DISORDER

TREATMENT OF ADHD MEANS, in all cases, treatment with stimulant medication, which, very frequently, is the only treatment required. There are few interventions in all of medicine that are as quickly and dramatically effective as stimulant medication when used to treat ADHD. When it works, and it usually does, the child's improvement in behavior and functioning, often within days, is almost miraculous, and the child can perform better than he ever has in his life. We have seen this happen again and again and are convinced that failure to treat the ADHD child appropriately represents a terrible lost opportunity. In some children, this may be the *only* treatment that is required.

The stimulant medications that are so important in treating ADHD fall into two groups. They are the amphetamines such as Dexedrine, Adderall, and Vyvanse and the methylphenidate compounds such as Ritalin, Methylin, Metadate CD, Ritalin LA, Daytrana, Focalin XR, and

Concerta. Amphetamine was introduced in the late 1930s. Methylphenidate was first synthesized in 1955 and began to be used in the early 1970s. As many as 80–90 percent of ADHD children respond well to one of these drugs. These will be discussed at length later in the chapter.

As will be discussed later in the chapter, psychological and educational interventions may also be necessary for some ADHD children. It is often difficult beforehand to determine how much improved a child will be through the use of medication. Often, after a child has been treated with medications some of the problems may disappear while others will remain. Also, the child may sometimes benefit from psychological treatment for the family and/or educational intervention for the child with ADHD and learning disabilities.

## **CONCERNS ABOUT MEDICATION**

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The use of medication to treat children is sometimes upsetting to parents. Parents are troubled for various reasons, and it may be useful to discuss them.

First, many parents have difficulty coming to terms with the fact that their child's behavior problems have a physical rather than a psychological basis; often this is because they find physical problems frightening. They feel that a temper tantrum is soon over, but the chemically abnormal brain may never recover. For this reason, they would rather believe that the problem is psychological. Fortunately, just as with many other serious physical problems, behavior malfunctions with physical origins can sometimes be easily remedied. On the other hand, psychological treatment is

not always as effective. For example, some problems of psychological origin cannot be cured despite years of expensive and time-consuming psychological treatment. A child who has been neglected or physically, sexually, or psychologically abused during early childhood may never function normally, even if he later receives warm, considerate parental care and psychotherapy.

A second reason parents sometimes object to treatment with medication is that such treatment seems artificial. To many parents, it does not appear to be a good way to get to the root of the problem. That may be so if the root of the problem is psychological, but in the case of ADHD, it is physical. Because some regulatory functions in the brain are operating less efficiently than usual, chemical means must be used to improve their functioning. Medication can be regarded as a form of replacement therapy; that is, it apparently supplies chemicals that are lacking or decreased or it causes the body to create more of the missing chemicals. At present, we can give no chemical that will permanently cure the deficiency. Medication is necessary unless and until the brain, through its own growth and development, begins producing adequate amounts of the required chemicals. The ADHD child may outgrow his difficulties.

A third reason parents sometimes object to medication is that they fear the child will become dependent on it. Despite their effectiveness and safety, amphetamines and methylphenidate have acquired a bad reputation because they may cause adults to become high and dependent on them. (Amphetamine is well known as “speed.”) Stimulant drugs have a much different effect in ADHD children and ADHD adults than they do in normal adults. Instead of

becoming high or excited, these drugs in general calm down ADHD children and sometimes (rarely) they may even become somewhat sad. Because the stimulants have opposite effects in children compared to non-ADHD adults, the effect of these medications is sometimes called paradoxical. Children do not become addicted to these medications; there is no danger that this will occur. Children may be happy about the improvement in their lives that medicine helps to produce, but they never like the medicine. They do not get high from it. They don't get kicks from it. The real issue is whether the medication is beneficial or harmful. As will be seen, most of the medications used in the treatment of ADHD are beneficial and carry very little risk. If the ADHD child's problems persist into adolescence, a few physicians will try to substitute medications, but those drugs are as a rule not particularly effective. However, most physicians who have treated numerous ADHD children continue to use the stimulant drugs well into adolescence and adulthood because of their medical impression that these people do not begin to respond to the drugs as do normal non-ADHD adults.

Parents also fear the continuing use of medication to handle problems. Unfortunately, this is the nature of the illness. Many ADHD children *do* need medicine to control their problem. The ADHD child is in a position similar to but less threatening than that of the child with diabetes, epilepsy, or rheumatic fever. Children with those disorders must take insulin, antiepileptic drugs, or penicillin for the rest of their lives. The ADHD child may be luckier. Because many ADHD children may outgrow their major symptoms, the ADHD child may have to take medication for only a part of his life.

In discussing the major medications employed by most physicians in the treatment of ADHD children, their effects, and their administration, our aim will be to help the parent understand the physician's treatment goals. We will not be presenting an exhaustive list of medications, and of course, this discussion is not intended to enable parents to treat their child by themselves. Parents who are aware of how a drug should act, what side effects it can produce, and what (if any) possible hazards accompany its use are in a much better position to assist their physicians in the treatment of their child. With this in mind, let us now turn to some general aspects of the administration of medication to ADHD children.

## STIMULANT DRUGS

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Stimulant medication for ADHD may be the most effective medication in psychiatry. They are uniquely useful and may turn a child's life around.

### Effectiveness

Although both amphetamines and methylphenidate are potentially helpful for children with ADHD, it is impossible to predict how a child will respond to a particular medication. Approximately the same number of children responds to each stimulant, but some children respond well to one medication and not to the other. If one fails, try the other. However, after careful trials with both drugs, 80–90 percent of children will show a favorable response.



ADHD children generally (1) become calmer and less active; (2) develop a longer span of attention; (3) become less stubborn and easier to manage (they “mind” better); (4) are often more sensitive to the needs of others and much more responsive to discipline and the wishes of others; (5) have longer fuses and fewer or no temper tantrums; (6) experience fewer emotional ups and downs; (7) show a decrease in impulsivity, waiting before they act, and may begin to plan ahead; (8) demonstrate an improvement in school performance (listening, following instructions, completing tasks, getting better grades; (9) improve their handwriting; (10) increase frustration tolerance; and (11) become less disorganized. The response of the ADHD child to stimulant medication is frequently a dramatic improvement. At best, most other treatments restore a patient to his previous level of functioning. For example, antidepressants may eliminate a depression, mood stabilizers control the ups and downs of bipolar disorder, and antipsychotics may stop odd thinking and hallucinations, but none allows a person to function better than he ever has before as often happens with stimulants used to treat ADHD. Let us repeat, stimulants may allow the person with ADHD to function better than he has in his entire life. The temporary psychological growth that occurs when stimulants are effective is very different from simple slowing down or quieting. And it is a very different effect from what the parent—if he does not have ADHD—may have experienced with tranquilizers or stimulants. When used by normal adults, tranquilizers produce a relaxing effect and stimulants an exciting effect. Neither drug stabilizes mood, cools tempers, makes one more law-abiding, dampens impulsivity, or helps one to plan ahead as stimulants do in the individual who suffers from ADHD.

The widespread effect of stimulant medication on various psychological functions has led child psychiatrists to believe that the brain chemistry of people with ADHD is in some ways different from that of others. The medication seems to compensate at a basic level for this chemical difference (as discussed in Chapter 3), affecting behavior in many diverse areas.

If the child is responsive to amphetamines and methylphenidate, the medications are usually effective immediately. In a few instances, the effects described may take as long as a week or two to be recognized.

## Dosage

Stimulants are rapidly acting medications, but they come in short-acting and long-acting forms. The short-acting, methylphenidate-based drugs release all the medication at once and may last from 3 to 4 hours, whereas the amphetamine-based drugs may last from 4 to 5 hours. The long-acting forms gradually release their medication over time and may last from 8 to 12 hours. In the early days, when only the short-acting medications were available, a child might have to take 3–5 doses throughout the day. This could be made to work but usually led to all sorts of social and logistic problems at school and at home. Fortunately, the longer acting forms have been developed (and new ones continue to be developed).

Modern treatment usually begins with a dose of a long-acting medication taken first thing in the morning. It may last all day, which would be ideal. However, it may wear off too soon (for example, before homework is done in the afternoon), so it may need to be supplemented with a dose of a

short-acting medication. On the other hand, it may last too long and interfere with sleep, so short-acting forms may be needed instead. The goal is to find the perfect schedule or combination of long- and short-acting medication which will cover the waking hours.

In addition, the physician will attempt to find the lowest effective dose of medication, because he or she does not wish to give more medication than is necessary. The child will not necessarily respond to the first dose tried (although it does happen) because it may be too low. The approach is to gradually increase the dose until either the symptoms of ADHD disappear or side effects appear. It may be necessary to increase the amount of medicine considerably. This should be no cause for alarm. Children differ greatly, and some children need much larger amounts of medication than others. The amount of medication is not necessarily related to the seriousness of the problem. For example, some ADHD children with extreme symptoms may require only very small amounts of medicine, whereas those whose symptoms are much less severe may need larger amounts. In any case, once an effective regimen is achieved, few changes are likely to be needed afterwards.

Parents' evaluation of their child's functioning plays an important role in the doctor's decision to increase or decrease the dose of the medication. The parents should know something about the dosages originally employed. Medications are usually measured in milligrams (one milligram is 1/30,000 of an ounce). The amount of the amphetamines an ADHD child may require usually ranges from about 10 to 30 milligrams a day. Methylphenidate is about half as potent as amphetamines, so the amount required can range from 20 to 60 milligrams a day. Occasionally, there are exceptions in either direction.

The most common drugs available of both types are shown in Table 5.1.

With amphetamines, usually Adderall XR (extended release) (lasts 8–12 hours) and Vyvanse (lasts 8–12 hours), and methylphenidate (long-acting forms last 10–12 hours) are commonly given once in the morning and perhaps a “booster” of a shorter acting form is given in the early afternoon. Used this way, both the amphetamines and the

Table 5.1

MEDICATIONS FOR ADHD	
<i>Drug Name</i>	<i>Duration of Action (hours)</i>
<i>Amphetamines</i>	
Adderall	4–6
Dexedrine	4–6
Adderall XR	8–12
Vyvanse	8–12
<i>Methylphenidate</i>	
Focalin	4–6
Methylin	3–4
Ritalin	3–4
Methylin ER	6–8
Concerta	8–12
Focalin XR	6–10
Metadate CD	8–10
Daytrana (patch)	10–12
Quillivant XR (liquid)	12
Aptensio	10–12
<i>Nonstimulants</i>	
Strattera	24
Clonidine	4–6
Intuniv	24

methylphenidates may be taken in the morning—say at 7 a.m.—and be scheduled to last all day but to wear off in the early evening, thus not interfering with sleep.

It is important for parents to realize that the effects of stimulant drugs last only for a brief period of time. For the amphetamines and methylphenidate, there is no carryover from one day to the next. When the medication is effective, the parents will find that if it is discontinued for a day, the child's temperamental problems promptly reappear. Thus, the child's ADHD may be present in the morning until he receives his medication. If part of his problem is dawdling about getting dressed, eating breakfast, and going to school, it may be useful or necessary to give him the medication as soon as he awakens. Similarly, because the medicines are generally given in doses that permit the effects to wear off in the later afternoon or early evening, parents may anticipate more difficulty with the child at that time. If the parent's main contact with the child is only after the child comes home from school, the parent may get the impression that the medicine is not helping. To check up on this, the parent should carefully observe the child's behavior on the weekend, at times when the medicine is most active—that is, mornings and early afternoons. This will also allow the parent to observe carefully how long each dose lasts and help the doctor to determine the best spacing of doses. If the child has to do homework after school or if parents are planning to take the child out in the evening, or, say, to attend a large family gathering, it is often helpful to give a small additional dose later in the afternoon.

After beginning with the smallest dose of medication that has been found useful with ADHD children of the child's age, the physician will then usually follow the principle of

increasing the medication until either the child's behavioral problems improve to what seems to be the greatest possible extent or the side effects of the increased dosages cause a problem in themselves. To determine how much benefit the child is receiving, the physician will want to know what is happening at home and at school. The schoolteacher is in an excellent position to determine the effects of medicine because he or she sees the child in circumstances in which he is apt to have the most difficulty. Furthermore, the teacher can compare his behavior with that of many other children of his age and intellectual ability. It is an excellent idea for the parent to stay in regular contact with the teacher, especially whenever the medication is being adjusted or changed. The parent should tell the teacher that the child is receiving treatment and should ask for a report on any changes the teacher may notice in the child's classroom behavior. Practically, it is useful not to make a big issue about this kind of information. Most people who expect to find changes tend to see them even if they are not present, so the parent should merely request information and not suggest that the teacher should expect to see the child improve. Another reason for not suggesting that the child may improve is that many teachers, trying to spare parents' feelings, will fail to report any difficulty the child may be having in school. If the child improves somewhat, and is now only a minor problem rather than a major problem, the teacher may inform the parent that things are going "pretty well." What the parent wants to know is if there are *any* problems, what kind they are, and how bad they are. There are several standardized questionnaires available for the teacher that are very helpful in informing the parents and the doctor about how the child is doing.

When the medicine should be given will depend on the sorts of problems the ADHD child has. Parents will necessarily play a central role in this process. For example, sometimes as the child matures, symptoms decrease. As previously emphasized, parents should always bear in mind that hyperactivity and restlessness themselves may disappear, whereas other problems, such as poor concentration and underachievement, may persist. The parents should, therefore, request detailed information from the teacher. Information that the child is not restless is not sufficient. How he is adjusting with his classmates, how he is concentrating on his tasks, and how much work he is able to do and how well must all be examined closely. Even the child with ADHD and a learning disorder may see his work improve, although stimulants have no direct effect on such learning problems. This improvement occurs because of improved focus, attention, and productivity, which often leave the child more open to remedial education. (A side benefit is that his handwriting may improve as well.)

The purpose of giving medication is more than simply to control the child's behavior and allow him to adjust to an environment he does not like and in which he does poorly: school. Effective medication often affords the child self-control. In a sense, he will have more, not less, freedom and will suffer less from symptoms such as moodiness and anger. By being less bossy, more obedient (but not becoming a robot!), cooler tempered, and a better student, he will be better liked by teachers, parents, siblings, and peers. He will feel better about himself and about his life. More than his school performance improves. His life improves.

A final point. As mentioned before, unlike adults without ADHD, children generally do *not* become tolerant to the

effects of these medications, although sometimes there is a small amount of tolerance that develops during the first few weeks of treatment. In those instances, one finds that the dosage of medication that for a month or so provided relief of symptoms gradually fails to control those symptoms. The physician will then usually increase the medication and find no further development of tolerance. Usually, if a child stays on the medication for several years, he may sometimes require an increased dose of medication as he becomes older and larger.

Because the amphetamines and methylphenidate can be abused by adults, their prescription is carefully controlled by the government. They cannot be called into the pharmacist—he must receive a written prescription for one month only, although the physician may write a future date up to two additional prescriptions in some states.

## **Side Effects**

Many medications produce side effects. A side effect is an undesired by-product of the administration of medicine. For example, aspirin sometimes produces irritation of the lining of the stomach and mild abdominal pain. Antihistamines given for hay fever sometimes cause sleepiness. When given to children, the stimulant drugs are unusually safe medications; however, they will sometimes produce side effects. These are discussed next.

In both children and adults, the stimulant drugs decrease appetite and tend to interfere with sleep. Usually, but not always, the child's decreased appetite continues as long as medication is active and may be accompanied by some degree of weight loss. Although this weight loss



may produce some concern in the parents, it never occurs to a medically serious degree. (Children's appetites generally return in the evening after the medication wears off. Accordingly, they should be allowed to eat after dinner and as much as they like. Appetite will also be normal, of course, at breakfast, before the medication has had time to act.) When first started on stimulants, the child may complain of a stomachache and decreased appetite, but these side effects usually disappear rapidly. The drug's tendency to keep some children awake can usually be controlled by careful timing of its administration. Medication keeps children awake only while it is still in the bloodstream (that is, 8–12 hours with most long-acting forms). This is the reason for *not* giving these medications late in the day. When the medication is appropriately adjusted, sleeplessness will not be a problem. However, behavior problems may appear later in the day as the medication wears off. Insomnia can generally be avoided by having the last dose administered so as to wear off (in 3–4 hours) by the child's bedtime. If insomnia remains a problem and the child has difficulty with behavioral control at bedtime, the physician may recommend that the last dose be given earlier in the day. If insomnia constitutes a substantial problem, the physician may sometimes suggest the use of other drugs at bedtime. Catapres (clonidine) and Intuniv (guanfacine) can be employed at bedtime. These drugs chemically block the arousing effects of stimulants and thus allow the child to fall asleep. There are possible safety concerns with both drugs, and their use should be discussed with the physician.

A recent finding that caused concern is that there appears to be an increased risk for a cardiac event in children and adolescents with ADHD who have structural heart

abnormalities or other serious heart conditions such as disorders of the heart rhythm or the heart muscle. Cardiac events occur with increased frequency in adults with similar heart problems, including serious coronary artery disease. Although initially this risk was felt to be possibly related to stimulant use, that now appears not to be the case.

There has been some concern that stimulants might cause a child to develop a tic disorder; however, this does not appear to be the case. Children who already suffer from mild tics may see them worsen with stimulants, but they will typically disappear when the medication is stopped.

It is sometimes hard to know when to stop increasing the stimulant dose. When the dose is too high, however, the child may complain of sadness, and/or further decreased appetite, and he may become increasingly irritable and fussy. These are signs to back off on the dose.

## **STIMULANT MEDICATIONS AND GROWTH**

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Several years ago, a report was published stating that stimulant medications decreased the rate of growth—both of height and weight—in ADHD children. Since that report appeared, a number of other studies on the same subject have been published. It does appear that growth rate is slowed for a period of one to two years. After that, growth rate appears to approach normal, and there seems to be no decreased height among ADHD adolescents. The whole issue is complicated because ADHD children may have growth patterns that are different from those of other children, and the usual tables of growth may not apply to ADHD children. Doctors who

have treated ADHD children with stimulants from childhood through adolescence have not observed any long-term effects of stimulant medication on height. If growth slows, it usually rebounds if medication is stopped during summer vacations, although the medication should be restarted if there is significant deterioration in behavior.

There is no doubt that many ADHD children do lose weight on stimulant medication. Although this is sometimes upsetting to parents, there is no information suggesting that it is harmful, and weight usually returns to normal when the medication is stopped. We should reemphasize that the effects that have been reported are small and that most physicians treating ADHD children regard the psychological benefits as outweighing *possible* effects on the rate of growth. At a practical level, what the physician must do is follow the child's height, weight, and changes in adjustment and base the use of stimulant medication not only on its effect on growth but on its effect on the child's psychological well-being.

## NONSTIMULANT DRUGS

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There are several other, nonstimulant drugs occasionally used to treat ADHD that may be useful for a few patients, but they are, without exception, generally much less effective than the stimulants.

Strattera (atomoxetine) is the first nonstimulant medication approved by the FDA for use in ADHD. It is typically taken once daily in the morning. It has a number of bothersome side effects, including sedation, fatigue, decreased appetite, headache, and gastrointestinal upset, which can

be sufficiently severe in some people to be quite limiting. Although considerably less effective than the stimulants, it may be the medication to try first in the patients who do not respond to stimulants.

Catapres (clonidine) is a drug developed for the treatment of hypertension (elevated blood pressure) that has been used in treating aggressive ADHD children and as a nighttime sedative in children who are receiving stimulants and in whom the stimulants produce insomnia. It has only modest effectiveness and requires two weeks or so for its therapeutic action to begin. It has a number of side effects, including sedation and fatigue, dizziness, constipation, and decreased blood pressure, and it must be stopped slowly because a sudden discontinuation can result in a dangerous blood pressure spike.

Intuniv (guanfacine) is also approved for treatment of ADHD. It is very similar to clonidine in effectiveness and side effects but may be better tolerated. Its effectiveness is also limited.

## AIDS TO ADMINISTERING MEDICINE

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Many parents do not realize it, but there are important psychological aspects to giving and taking medicine. This is usually overlooked because most medications are either for medical conditions or for obvious psychological ones. People take aspirin because of a headache, laxatives because of constipation, and tranquilizers because of anxiety. The how's and why's are straightforward. But in the administration of medicine to children for ADHD, several psychological

principles play an important role. If treatment is to be maximally effective, these principles must be properly applied.

First, the child must have some understanding of why he is receiving medication. Second, he must be assured that taking medicine does not mean that his problems are terrible, such as being brain damaged, stupid, bad, or crazy. Third, it is useful to have him recognize and acknowledge problems in his own behavior *that he himself does not like*, so that he will not feel that medicine is being given to him simply so that other people can tolerate him more. If a child does not understand why he is receiving medication, if he does not feel that he has problems and that the medicine is helping him with these problems, he is more likely to resist taking it, forget to take it, or discontinue it when he grows older but may still need it,

Usually an ADHD child will recognize and acknowledge certain features of his experience and behavior that he does not like or that get him into trouble. These may include such things as not being able to pay attention, having a hot temper, being “nervous” (restless), or being criticized by teachers or parents for forgetting things, not finishing work, or being out of the classroom seat all the time. He can honestly be told that the medicine will help him to complete his schoolwork, pay attention, hold his temper, be less nervous, remember things better, and to calm down. If he can accept the fact that the medicine is helping him, a large task has been accomplished. He will feel that something is being done for him rather than to him.

It is also important in giving medicine to children that they do not get the idea that because they have to take medicine they are somehow excused from assuming responsibility for their own behavior. ADHD, like any other illness, does not

negate free will. It may limit or modify someone's behavioral options, but it does not eliminate all responsibility. Children *can and must feel* that they share a responsibility for their behavior. They should not attribute all their actions to powers beyond their control. They should not be allowed to play the kind of "game" that Eric Berne, in his book *Games People Play*, calls "wooden leg." In this psychological game, the person says the equivalent of "What can you expect of me? I couldn't do more. I've got a wooden leg." Children should be prevented from adopting the same attitude with regard to their ADHD. They should not be allowed to imply: "I am a psychological cripple. I have ADHD. All my actions are beyond my control." For this reason, parents (and teachers and brothers and sisters as well) should not explain the ADHD child's behavior on the basis of whether or not he's taken his medication. Parents should not say to him: "You're acting up. When did you have your medicine?" Putting things this way leads the child to believe that he has no control of himself, and it may place him in the position of having his "badness" explained by the absence of medicine and his "goodness" explained by its presence. If so, he can take no credit for controlling himself, and when he has not behaved in an appropriate way, he frequently can excuse himself because he hasn't taken his medication. If in talking to the ADHD child, his parents, teachers, or brothers and sisters often associate his behavior with his medication schedule, he soon will learn how to play the game of "medicine wooden leg": "What can you expect of me? I have ADHD and my medicine wore off."

The importance of communicating to children their responsibility for their own behavior will become clearer in the section of this chapter entitled "Psychological Management."

## DIETARY TREATMENT

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Dietary treatments have been highly publicized in the past, but numerous and recent studies have found them to be of little or no value.

## THE BROADER APPROACH TO THE ADHD CHILD

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The treatment of the ADHD child can often be relatively straightforward. Because medication is of the greatest importance, treatment always requires the services of a physician. Nonmedical specialists, such as psychologists and social workers, may provide useful assistance, but they cannot assume primary responsibility for treatment. Because they are not trained to use and cannot prescribe medications, they are unable to supply the treatment that is both the best and sometimes the only one required.

Family problems, which may prompt the family to seek help, may actually be the result of the ADHD child and may resolve themselves once treatment begins. It is quite possible that the parents of an ADHD child are having marital difficulties; if one helps only the parents, the child will probably be more comfortable in some ways, but his basic problems will remain untouched and unchanged. On the other hand, because ADHD is hereditary, the parent may have had ADHD, and the parent's own symptoms (such as being hot tempered or disorganized or impulsive) often interfere with the parent's ability to raise an ADHD child. Treatment of ADHD—or any psychiatric disorder—in the parent will

likely be of great assistance in enabling the parent to care appropriately for the child.

The importance of medication as the first-line treatment was demonstrated by the MTA study (Multimodal Treatment Study of Children with ADHD), the most careful, scientific investigation of treatment for ADHD ever done. It studied 579 children between 7 and 9.9 years old with ADHD combined type who were divided into equal groups and treated over a 14-month period with either medication management, intensive behavioral treatment, both, or treatment by providers in the community. To assure a fair trial of the behavioral treatment, the children who received therapy got a truly impressive combination of interventions: 35 group and individual family sessions; an 8-week, 5 days weekly, 9 hours daily summer program for the child with behavioral management and social skills training among other methods, and a classroom experience that taught academic skills and good classroom behavior; and a school-based program with 10–16 sessions of teacher consultation focusing on classroom behavior management supplemented by 12 weeks of an aide working directly with the child in the classroom. This was more intensive treatment than the child would ever have received in the community. On the other hand, the children treated with medication received only medication, mostly stimulants, for 14 months while a third group of children received both the intensive therapy and medication. At the end of the study the children treated with medication alone and those with medication and therapy both showed marked and equal improvement in their core ADHD symptoms of inattention, impulsivity, and hyperactivity, while those who received therapy alone displayed



only modest improvement. It is on the basis of this kind of evidence that medication is seen as a key treatment for the ADHD child.

Finally, the same principles hold for educational treatment. The educational psychologist at school will see the child with educational problems or behavioral problems or both. The counselor may assume that the behavioral problems are causing the academic ones, or that the academic problems are causing the behavioral problems. And the counselor is probably *partly* right in either case. The catch is that both kinds of problems can be separately caused by ADHD or, equally importantly, ADHD complicated by the learning disabilities that often occur with it. Both of these conditions must be recognized when present and treated appropriately. Only when these underlying disorders are dealt with is the child receiving the best treatment for his school difficulties.

## PSYCHOLOGICAL MANAGEMENT

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Most ADHD children can benefit from medication. All of them can benefit from understanding and consistent parenting and care. ADHD children have special problems, but like all other children, they may have “unspecial” ones as well. Difficulties, misunderstandings, friction between parent and child will cause trouble for any child, but they may cause more trouble for the ADHD child. This book focuses on the particular psychological problems the ADHD child is likely to develop because of his difficulties in the areas of attention, impulsivity, and hyperactivity.

## UNDERSTANDING AND DEALING WITH THE PROBLEM

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The first part of this book has been devoted to a description of the typical problems of the ADHD child and why he has these problems. Intuitively, one believes that he is having a psychological problem. As we have tried to make clear, he does have psychological problems, but they are physically caused.

How should a parent handle the problems? It seems that, if a problem is psychological, the child is responsible for his behavior. If he is good, he should be praised, and if he is bad, he should be punished. Similarly, if the problem is physical, the child is not responsible for his behavior. If that is so, he should not be rewarded for being good or punished for being bad. Neither of these beliefs is true. Temperament may influence behavior, but it is not the only factor that determines behavior. Temperament may make it easier or harder for a child to control himself. It may make it easier for him to learn to respond to discipline. But how the parents feel about the child and how they treat him can have appreciable effects.

During the past few years, psychiatrists and psychologists have found that patients whose severe psychological problems are physically caused can benefit markedly from certain psychological techniques. These techniques are based on three principles: (1) making the patients responsible for their behavior; (2) rewarding them for good behavior; and (3) punishing them (in a special way) for bad behavior.

The ADHD child does better when he is held accountable and made responsible for his behavior. He should not be allowed to say, either in so many words or indirectly, "I'm

ADHD—I'm a mental cripple—I'm not responsible for what I do." He should be treated as responsible and, if necessary, be told something to this effect: "You do have problems that may sometimes make it hard for you to control yourself. But the same thing is true for everybody. Everyone does some things more easily than others and does other things with more difficulty. You can learn to (count to ten, hold your temper, not tease your sister) and I expect you to." As with all our suggestions, of course, parents should change the words to suit themselves and their children.

The child should not be held to be either irresponsible or blameworthy but should be treated as someone who has a greater tendency than average to have certain kinds of difficulties. Parents should realize that for most ADHD children, no method of childrearing will eliminate the central ADHD symptoms. The child will tend to be more attention-seeking and forgetful, and will seem absentminded and willful regardless of parental discipline. In most instances, he is not doing these things to annoy. He would do them no matter how he had been raised. Parents should make a clear distinction between symptoms that can be benefited by both parental rearing and medicine and those that can be alleviated only by medicine. It will prevent parents from trying to use psychological methods to change things that cannot be changed (or at best changed very little) in this way. These psychologically unchangeable symptoms usually include the following: short attention span, distractibility, moodiness, lack of stick-to-itiveness, school underachievement, and immaturity. They *may* include bed-wetting, soiling, and some antisocial behaviors such as stealing. Although psychological techniques typically do not completely eliminate these problems in the child, they may modify them. For

example, the child may continue to have tantrums, but he can be taught what to do when he has them. This will be discussed later.

In summary, parents must remember three things. One, the child does have difficulties in doing and not doing certain things. Two, he will learn best how to compensate for his problems if he is treated as a responsible person who can gradually learn to control himself and his behavior. Three, the degree to which his problems can be helped by particular childrearing techniques varies. It is much easier to teach him how to control his temper or how to take responsibility for his chores than to teach him to have a longer attention span or to be less distractible. Both medicine and discipline will help the first kind of problems (e.g., temper and chores). The second kind of problem (e.g., short attention span) for the most part can be helped only by medicine.

## **BASIC PROCEDURES**

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The main problem of the ADHD child at home involves discipline. In discussing the basic procedures that will help the child to function effectively in his home environment, we will first indicate how the parents can establish constructive rules for the child. The second section will describe the rewards and punishments most likely to ensure that the child will adhere to these results.

### **Establishing Rules**

Considerable evidence exists that certain ways of handling ADHD children are more effective than others. It has been

found that a firm, consistent, explicit, predictable home environment is best. Let me elaborate the special meaning that these terms have with respect to disciplining the ADHD child. *Firm* means that rules or expectations for the child always have the same consequences. If he breaks a particular rule, he is always punished and always in the same way. If he does what he is asked, he always obtains acknowledgment or praise. *Consistent* means that the rules themselves do not change from day to day. If he is supposed to clean up his room before going out to play, he is never allowed to leave his room until it has been cleaned up. *Explicit* means clearly defined and clearly understood by all parties. For example, “cleaned up” could mean that clothes have been hung in the closet, or that the bed has been made, or that toys have been returned to a shelf, or that the room has been vacuumed and dusted, or any combination of these. For the cleaning-up rule, the definition of cleaning up must be explicit enough so that the child and the parents understand the rule the same way. *Predictable* means that the laws are made before, not after the crime.

Obviously, all parental expectations for the child cannot be stated beforehand. Parents never consider telling the toddler not to put nail polish on the rug and rarely think of telling him not to put a toy car in his ear. Some things can be dealt with only after they happen. In general, however, for most daily activities, rules can and should be made and then enforced. The child must wash himself, brush his teeth, do his around-the-house chores and homework every day; rules concerning these routine functions should be established. Enforcement of these rules should follow any violation, such as removing him from the setting or removing things that are distracting him, but should not be employed if the rules have

not been agreed on beforehand. Analogous consistent and predictable rules for adults exist in the speed limits for driving. It is easier to abide by a specific speed limit, say 55 mph, than adhere to the vague limit, “reasonable and proper,” that was formerly designated in some Western states. In the case of the vague speed limit, one does not know how fast one can go if it is twilight and a light rain is falling. Someone who is fearful may drive 35 mph. Someone who is more adventurous and drives at 40 mph may rightly be upset when she gets a ticket.

These suggestions may impress parents as harsh and possibly cruel. They may also seem to contradict various benign permissive doctrines that advocate allowing children to “do their own things” and allow opportunities for parents and children to talk things over. Let us correct some common misconceptions. First, firmness is not the same as harshness. Harshness is excessively severe or brutal rule enforcement. It is harsh to imprison someone for life for driving too fast. It is firm to fine him every time he does so. Second, children need structure. They need established rules, expectations, and values by which to live. Such structure does not mean the absence of freedom.

All people living in society have to follow certain rules and expectations if that society is to function effectively. Adults must not steal, drive when drunk, or embezzle. They must not urinate in public. Behaving in accordance with such rules also benefits the individual. First, and obviously, it keeps him out of trouble. But it also helps some individuals directly. Someone who has only poorly learned to control his impulses must consume a large part of his energy in simply controlling himself. The reformed alcoholic or drug addict must expend a great deal of effort in preventing himself from

backsliding. The person who has learned to control himself readily has energies that he can utilize profitably elsewhere.

Note that this is not contrary to self-expression or creativity. The person who is brilliant but cannot focus his energies will not be productive (consider the old saw that genius is 1 percent inspiration and 99 percent perspiration). Firm, consistent rules for behavior have nothing at all to do with the child's self-expression or with understanding between parent and child. We have been talking about rules for behavior, not rules for thoughts and feelings. Thoughts and feelings are very different from behavior. They cannot be regulated, and the parent should not attempt to regulate them. As discussed later, parents should help their children acknowledge and express their feelings. But both the parent and the child should always discriminate between feelings and behavior. For example, the parents of an ADHD child should allow him to express his jealous feelings toward his newborn sister, but he should not be allowed to hit her. Feeling jealous and hitting because of jealousy should be recognized as being as different as night and day.

Finally, the setting of firm rules need not interfere with helpful discussions between the parents and the child. As the child becomes older, such discussions certainly should be a part of family life, but even when he is younger, they may be helpful. The child may, for example, suggest ways of getting his tasks done in a way that he likes better and that does not compromise the family. This is perfectly acceptable and, in fact, should be encouraged. But talking things over should not prevent rules from being formulated. It may influence how they are decided on, and it may modify their exact terms, but it should not interfere with their being established explicitly and consistently.

What evidence is there that the kind of structure discussed here is useful? Very interesting information comes from a study done in the mid-1930s with severely “hyperactive” children. The behavior of these children was so uncontrollable at home that they had to be placed in a hospital for children with severe behavior problems. The physicians had no previous experience with such children and tried various techniques to see which would be most effective. They began by assuming that the problems of the children were the result of excessive emotional stress and strain, and they treated them with a great deal of tolerance. This technique produced a brief period of improvement, which was soon followed by recurrence of the same behavioral problems. Next, because the children had never received psychotherapy, they were treated in individual psychotherapy. This approach, too, proved unsuccessful. Finally, the doctors decided to create an environment that was “constructive,” “restrictive,” and “tolerant.” The rules were not lax and definite compliance to them was expected of the children. Children were isolated but not criticized for impulsive behavior (we will discuss this isolation later), and after they had calmed down they were helped to express themselves. The last technique clearly produced the greatest benefit, and many children could be discharged from the hospital to their homes. Unfortunately, those children who returned to homes in which parents could not be firm often again became disturbed and had to return to the hospital. It is important to emphasize that not all children benefited by this (or any other) technique, but it was the technique that worked best.

This and similar studies give us evidence that environments structured in such ways can help ADHD children. There is also reason to believe that they are most effective if



begun early in life and are relatively ineffective (perhaps useless) if initiated later in childhood. The techniques to be discussed may help the preschool or young school-aged child a great deal. They may be less effective with an ADHD child who is approaching adolescence.

What the specific rules should be in a particular family depend on parental preference and the age of the child. Parents could theoretically make any rules and teach young children to abide by them. (Different cultures have vastly different rules and standards for child behavior, and each culture tries to make a “standard product,” a child well adapted to living in that culture.) As the child grows older, the parents’ latitude in setting these rules decreases. The young child is for the most part only aware of how his own family does things. The older child is very much aware of how other children and their families do things and will tend to rebel if his parents’ standards appear different. A mother may keep her two-year-old boy in long curls, and he will not protest. But it would be foolish of her to try to give her fourteen-year-old a prep-school-style haircut if his friends look like the latest rock idol. The earlier that rules and values are taught to a child, the more likely he will be to maintain them later, even in the face of different standards outside the family.

The techniques to be discussed work best on younger children, say, up to the age of ten or eleven. These methods, which require that the child is still dependent on and controlled by his parents, are not for teenagers—they need a different psychological approach.

With younger children, the first task for parents is to decide concretely and specifically what behaviors require limitations or change. It is important to be concrete and specific so that the rules can be stated clearly and explicitly. Let

us give some examples of vague, meaningless rules and how they can be clarified.

- A. “He should clean his room.” As we have indicated, this rule is highly ambiguous. If by “cleaning the room” the parent means put everything away and the child understands make your bed, he can feel wronged if he makes his bed, leaves, and is criticized. Furthermore, there is room for endless debate. The child cleaned the room by his standards but did not clean it by his mother’s. We will return to this particular topic later in the subsection entitled “Chores.”
- B. “He should have better table manners.” This might mean: he should eat with his fork instead of his fingers; he should put a napkin on his lap; he should say “please”; he should not use a boardinghouse reach.
- C. “He should treat his little sister better.” This could mean: he should not hit her; he should allow her to play with his toys; he should not retaliate when she hits him.
- D. “He should be neater.” This might mean: he should tie his shoelaces; button his shirt; wash his face; brush his teeth.

Not only does the child not know what his parents mean if they are not specific—and he can and will argue with them in the best legalistic fashion about what they might have meant—but also parents will have a much harder time determining whether progress has really taken place.

The second task of parents is to establish a hierarchy of importance for the rules. They must decide what is essential, what is important, what would be nice, and what is trivial. The parents must decide what are five-star rules and what are one-star ones. They must fit the punishment to the crime; they must distinguish between felonies and misdemeanors. They must not, so to speak, punish illegal parking with life imprisonment and punish murder with a warning. For example, parents have been known to use a talk as punishment for the setting of a serious fire and a severe spanking as punishment for poor homework. The usefulness of establishing five- and one-star rules is that it helps parents concentrate on the more important areas first and gives the child some breathing room. After the most essential problems have been brought under control, the parents can move to the next category.

Another task for the parents is to predecide that both mother and father will abide by the prescribed course of action. This policy is not always easy to carry out. Frequently, each parent has devised his or her own (usually not too successful) technique for dealing with the child, and unfortunately, each often believes that that technique is right and the child's problems are the result of the other's mismanagement. If such a family atmosphere exists, it conflicts with the consistent united front that is an absolute requirement for helping the ADHD child learn to control his behavior. It is not necessary for the parents to agree completely with each other—they simply must act in common. If parents are incapable of resolving their differences and agreeing on rules and standards for their ADHD child's behavior, they may benefit from psychological assistance. A psychiatrist, social worker, or psychologist may enable them to thrash

out these differences and determine the set of rules, and the relative importance of the various rules, necessary for their ADHD child.

## Rewards and Punishments

In addition to establishing sound rules to help the child, parents must predecide a plan of rewards and punishments. These rewards and punishments should be seen as such by the child and not only by the parents. The words “reward” and “punishment” have an unfortunate meaning to some people. “Reward” seems to suggest bribery and “punishment” to suggest brutality. All that is meant by reward is something the child likes, particularly attention, praise, or a small special privilege. Certain privileges, toys, and so forth can be useful under special conditions, which will be discussed later.

Similarly, punishment simply means something the child does not like. It does not mean beating, emotional neglect, or denial of privileges for a long time. Generally, with younger children, a most effective and nonhurtful punishment is to use “time-out” such as sending the child to his room until he stops behaving in an undesirable way (e.g., having a tantrum) or finishes a required task (e.g., getting dressed). It is more effective to say, “Go to your room, please, and come back to breakfast when your shoes are tied and your face is washed,” than it is to yell at the child or spank him.

There are two more important principles of reward and punishment. First, to be most useful, a reward or punishment should be immediate. Any delay decreases

effectiveness. When a child does what you want him to, praise him on the spot. If he does what he has been told not to do, punish him at once. Do not offer distant presents (“any toy you want two weeks from now”) or threaten punishment (“Daddy will spank you when he gets home”). Second, the one-time rule should be adopted. The parents should learn the habit of saying do or don’t only *once* before rewarding or punishing. If they do not apply this rule, if they give first, second, third, and tenth warnings before acting, their children will learn to commit ten violations before worrying. In the meantime, the parents will have developed sore throats and built up a good deal of angry steam. In some cases, the child may have been anxiously pushing his parents to take a stand. Surprisingly, most children are relieved when the parent finally acts. A good deal of friction can be avoided by the use of this one-time rule.

In the past sixty years, psychologists have learned a great deal about reward and punishment from animal experimentation. Researchers have discovered extremely simple and effective techniques that can be used to teach animals, such as pigeons and rats, to perform very complicated tasks. Since then, psychologists have found that such techniques, called “operant conditioning,” or behavior modification, are sometimes helpful in teaching and controlling the behavior of human beings whose psychological difficulties are so great that previously they seemed unreachable by any known technique—for example, profoundly retarded children and adults, children of normal intelligence who are unable to talk, and seriously disturbed adult psychiatric patients. In more recent years, a number of psychologists have tried applying these “operant” techniques to children with behavioral problems. The operant techniques—or operant

conditioning—are no more than refined sets of rewards and punishments, and the work of the psychologists can be translated into recommendations that can be very helpful to parents of ADHD children.

The exact rules and laws of operant conditioning as they are used in the laboratory are somewhat complicated, but the basic principle that parents can use is exceedingly simple. It is that *acts are influenced by their consequences*. That is, what happens after an animal or child does something greatly influences, either positively or negatively, the likelihood of his doing the same thing again. For the parents, this means that how they act when their child does or says something will either increase or decrease the probability that the child will behave that way again.

This principle is most easy to illustrate in the use of operant conditioning, and specifically “reinforcement,” with animals. We will describe a typical demonstration in an elementary psychology course. A hungry pigeon is placed in a cage. Standing outside the cage and observing the pigeon through a one-way screen is the experimenter. In his hand, he holds a switch that he can use to cause a click to be made in the box and a kernel of corn delivered to the pigeon in a feeding dish. The experimenter may choose to make the pigeon perform any behavior pigeons are capable of. In one instance, it was decided to make the pigeon rotate counterclockwise, spinning like a ballerina. To accomplish this, the experimenter waited until the pigeon in his normal wanderings had turned slightly to the left. After the pigeon had done so, the experimenter pressed the switch, and the pigeon received a kernel of corn. In the next twenty or thirty seconds, the pigeon again turned to the left, and the experimenter delivered another kernel of corn. In the following

few minutes, the pigeon began to rotate slowly toward his left. After he had done so for a while, the experimenter again delivered a kernel of corn. During the next five or ten minutes, the pigeon began to turn continuously in a circle. The experimenter would wait until the pigeon was turning rapidly and then, and only then, deliver the food. At the end of the half-hour the class was astonished to see a pigeon rotating like a whirling dervish. This experiment illustrates the complex tasks that can be taught even to animals. More complex behavior can be taught to humans, and (as cannot be illustrated by animal experiments) such learning can apparently occur without the person's awareness of it as well as with his being conscious of it.

Before examining the question of what relevance this experiment has for people, let us digress for just a moment and define two, and only two, terms from operant conditioning therapy. The first term is "operant," and the second is "reinforcement." An operant is any voluntary act an animal or human is capable of performing. It includes the pigeon's circling. In fact, it includes most behaviors. In children, it might even include talking, attention-getting, having tantrums, waking up in the middle of the night, lying, stealing, crying, fire-setting, writing poems, or philosophizing—in short, almost anything. "Reinforcement" is synonymous with the word "reward." In the animal experiment discussed, reinforcement was food. Food is rewarding or reinforcing to a hungry animal.

What is reinforcing to children? That depends on their state. To the rat that has eaten his fill, food is no longer reinforcing, and he will not depress a bar to obtain it. For a thirsty child, water can be reinforcing; for a hungry child, food can be reinforcing. However, most of the child's acts

are influenced by parental behavior that is quite different from simple satisfaction of hunger or thirst. For an individual child, reinforcing behavior varies, *but certain parental acts and behaviors are reinforcing to almost all children*. The most important, as we have suggested, are parental affection and parental attention. Parental attention is probably the single most common reinforcer in a child's daily life. It is important not only because of the frequency with which it is focused on the child, but also because it is reinforcing no matter what elicits it. Some kinds of punishment, therefore, are more rewarding to a child than ignoring him. Expressing disapproval of a child's most recent misdeed is giving him attention. Thus, paradoxically, the likelihood that a child will repeat a misdeed may be increased when the parent discusses the misdeed with the child at too great a length.

What about more severe punishment? The reinforcers we have discussed are referred to by psychologists as positive reinforcers. What the layperson refers to as punishment, the psychologist calls negative reinforcement. Certain general principles have been learned about the effects and effectiveness of negative reinforcement.

To begin with, negative reinforcement *generally* reduces the likelihood of the repetition of the act that preceded it. Thus, as generations of parents have learned, with most children most of the time a "good spanking" was a pretty effective way of preventing a child from doing again what he just did that the parents didn't like. The rat that received a powerful electric shock after pressing the bar will refrain from doing so in the future or, at least, in the very near future. Psychologists have also learned some less obvious things about punishment. If it is very severe (e.g., a very painful electric shock, which is almost enough to paralyze the



animal), the animal is likely *never* to repeat the act again, but punishments of this nature are also likely to be accompanied by side effects that change the animal in a number of undesirable ways. Animals that receive such powerful punishments are apt to become erratic and often show disturbed (neurotic) behavior in other areas. In experiments in which electric shocks have been used to teach dogs to avoid things, the dogs have become vicious, excited, withdrawn, or very fearful. In other words, punishment that is effective enough to prevent offensive behavior permanently may produce more disturbing behavior than what it prevented.

Thus, some punishment focuses attention on the child and therefore reinforces poor behavior, and, if severe, punishment is likely to produce bad side effects; thus, the question arises as to whether any form of punishment can be reasonably effective. Although the psychologists disagree, it seems that there are lesser degrees of punishment that can suppress behavior but only temporarily. That is, shocks that will not make the animal neurotic are not likely to be effective for very long. The relevance of this for children should be fairly obvious. Humane parents use only moderate punishment, and in ADHD children, who are often not particularly responsive to punishment, the effects of punishment should not be expected to be long lasting. And in fact they rarely are.

Positive reinforcement, on the other hand, may not be permanent either, but with certain modifications may be extremely long lasting. Its virtue is that once the child is started on the right track, he is likely to receive reinforcement from people outside the family. The child who is taught to be reasonably polite and in whom medication helps to be moderately obedient and reasonably nonaggressive will be

reinforced by favorable attention from others, by making friends and succeeding.

Another method to make the effects of positive reinforcement more long lasting is to gradually make the reinforcement less frequent and more unpredictable. One begins by reinforcing a child every time he performs a desired behavior. After a while, one changes the payoff and gradually reinforces him less often for the same behavior. The child is now likely to persist in this behavior even without a constant payoff.

Having criticized punishment (and not for humane grounds but for practical grounds), we must back down a little and point out that it does have some effectiveness and that it can be important in situations that are dangerous or life-threatening. The two-year-old rushing out into the street (to possible death) should be dealt with sternly and immediately. This will decrease the likelihood of his doing it again in the near future. One is more likely to keep him out of the street, however, if he is positively reinforced for doing things that prevent his going there (e.g., staying on the lawn or playing in the backyard). Punishment may be a good temporary technique, but it is ineffective in the long run in most ADHD children. Even though punishment may be absolutely necessary (as for the two-year-old just mentioned), punishment should be as mild and as infrequently used as possible.

One point we have touched on but must emphasize is the question of when reinforcement should occur. One word will suffice: immediately. In the experiments with animals, the success of the technique depends on the animal's receiving the reinforcement the moment after the act—the operant—is performed. A delay of two seconds decreases its effectiveness

a little, a delay of five seconds reduces it considerably, and a delay of a minute makes it useless. Children apparently can tolerate longer delays, but the same principle applies to them. Positive reinforcement (or reward) and negative reinforcement (or punishment) are much more effective if they are received immediately. If a child does what the parent wants him to do, he should receive praise for that act immediately. If he does something that requires punishment, he should be punished immediately. It is ineffective and a waste of time to promise to reward a child in two weeks if he obtains good grades now or to delay necessary punishment until Daddy comes home. Such reinforcements *may* work at best temporarily but will have no long-lasting effect.

From this discussion, the question emerges of how these techniques should be applied practically to children. They may be used informally and formally. Clearly, an important principle of their informal application is that children should be positively reinforced, immediately, when they do what their parents want. Once the child knows what his parents' desires are (e.g., putting his shoes away, eating with a fork, saying "please"), he should be reinforced by his parents in a specific way whenever he performs these acts. By "specific," we mean that the parents should comment on the desired behavior in believable and pertinent terms. If he is asked to put his shoes away and does so, the parent should not say, "You are a wonderful son." The parent should say, "I am very pleased that you are learning to take care of your things like a grown-up boy," or words to that effect. Children, like adults, recognize overgenerous praise as false. The child should know what he is receiving praise for.

Theoretically, the corresponding principle to be applied when children behave undesirably would require that the

children are ignored, but how can the parent ignore undesirable behavior? If the child is acting like a clown, it is easy. If he is pummeling his three-year-old sister or destroying the house, ignoring him is dangerous or expensive. If he is engaging in harmless attention-seeking behavior, ignoring is easy. If he is engaged in behavior that is destructive or harmful, ignoring should be combined with the isolation-room or time-out technique.

The usefulness of time-out becomes apparent when one considers what ordinarily happens when a child misbehaves. For example, if the child punches his sister, the parent is apt to ask at least, "Why did you do that?" Thus, the child receives attention for misbehaving. In accordance with the principles discussed, attention is likely to increase the probability that the child will do the same thing again. In other words, the parents' normal discussion with the child is likely to result in greater future misbehavior. With the time-out technique, the child is informed beforehand that whenever he misbehaves he will be sent to his room. Then, when he actually does misbehave, he is simply told that he is going to his room and that he will be allowed to come out as soon as he regains control of himself. If he goes willingly, that is fine. If he has to be carried, that may not be fine but is effective. If he tries to leave his room, a screen door latch should be placed on the outside of the door and locked.\* When the child quiets down or—in the case of the older child—when he announces that he has quieted down and comes out himself, then and only then, does the parent sit down with the

\* Parents should *never* leave the house while the child is locked in the room because of the always present (even though remote) possibility of fire or similar emergency.

child and discuss what was bothering him before. With this technique, the child receives attention for being in control of himself, not for being out of control. After a child has had considerable experience with this procedure, he often learns to go to his room when he has become upset and come out when he is no longer upset. If the child has to be kept in the room, the parents should not let him out until he is able to be in control of himself—that is, until his tantrum has stopped or his anger outburst is under control. This technique has been used effectively with very disturbed hospitalized psychiatric patients as well as the ADHD children. It is an especially effective technique with younger (under the age of nine or ten) ADHD children.

The second way in which reinforcement therapy can be applied, the more formal way, cannot be used with the youngest ADHD children, but it is effective with children beyond, say, the age of six. With this method, the parent and the child decide what tasks the parents would like the child to perform. These may be tasks that occur each day or once a week. They may, for example, include making his bed, putting his clothes in the hamper, or taking out the trash. A weekly chart is kept and the parent and the child predecide how many tokens—for example, poker chips—the child will receive for performing as agreed. Whenever the child does do the work, he promptly receives the predecided number of poker chips. The child is allowed to accumulate the credits he earns for desirable behavior and can exchange them later for objects or privileges he regards as desirable. In other words, he earns tokens and spends them for the movies, going out to play, watching TV, or, if the parents choose, even for money. In any event, the rate of exchange should also be decided on beforehand.

This technique will be further described in the subsection entitled “Chores.”

## HELPFUL GENERAL PRINCIPLES AND TECHNIQUES

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The general question of how parents should treat their children, of how they should relate to them in order to produce the healthiest possible psychological environment, has been the subject of numerous books. They carry a wealth of helpful advice for parents of all kinds of children, and no effort can be made here to review every approach that psychologists have found useful. However, we will briefly discuss certain general principles and techniques that are of special benefit to ADHD children as well as to children with no problems. When added to the previous discussion of basic procedures, they provide a good picture of psychological approaches that can be particularly useful in managing the ADHD child.

### How to Criticize

No one likes criticism, and children are no exception. Everyone can tolerate criticism best when it is specific, not generalized. For example, the spouse who arrives home from work and finds dinner not ready could respond with either of two statements: “You are a disorganized person and never get anything done,” or “I’m always starving after work and I’d really appreciate it if you could have dinner ready when I get home.” The at-home spouse might not like either of the two statements, but the second, being more specific and somewhat more understanding, is a lot easier to

take. Similarly, an employer faced with a problem of chastising an employee who is late finishing a piece of work could select one of the following statements: “Jones, you are a lousy worker” or “Jones, I’d appreciate it in the future if you’d be faster getting me these reports.” Again, the employee may not like *any* criticism, but the second version, being specific, is easier to swallow.

The same principle applies to criticism of children. When, for example, the ADHD child has just hit his baby sister for picking up his favorite toy, reducing her to a howling mass, the parent is likely to explode and say such things as: “Why must you be such a bad child?” “You’re a terrible child and you’re always making trouble!” “Can’t you do anything right?” Reacting this way is understandable. Nevertheless, such an explosion is not helpful. If parents have thought about the problem areas in which improvement is wanted, they are in a far better position to criticize specifically. For example: “I do not like it when you eat with your hands—that is for small babies, not big children”; “Mommy gets upset when she asks you to clean up your room and you do not. Nobody likes to look at messy rooms. Please go back and clean it.” In the examples given, the parent expresses anger—but for *specific* acts. It is perfectly all right and it is sensible for the parent to acknowledge feelings that a child knows are present. The child can see that the parent is angry. Denying what the child knows is not useful. But the parents must not allow their anger to take the form of criticizing the child as a whole. The parents must never call the child worthless or bad. When criticism is necessary, the parents should criticize the objectionable behavior and be as specific as possible.

## How to Praise

Similarly, praise should be specific. Affectionate attention should be provided when the child is behaving desirably. If the child is eating nicely, say, “You are eating in a very grown-up fashion and that pleases me.” If his baby sister is teasing him and he has resisted the urge to slug her, say, “I am very pleased that you can hold your temper even when Susie is making a pest of herself.”

It is not helpful to say, “You’re a wonderful child,” or to tell your spouse, “Jimmy has been just marvelous today.” In addition to being ineffective in helping the child achieve self-control, such comments are likely to strike him as phony. All of us react to such comprehensive praise as false. We all know we have our good and bad points and that anybody who calls us “wonderful” is either trying to butter us up or is stupid. Children have the same reaction. Consider the TV talk show in which an actor is introduced as a “wonderful personality.” That turns most of us off. We recognize it for the hokum it is. Thus, when you do praise children, praise them for the specific things that they have done that they know are good. Do not enlarge. Children recognize and appreciate honesty.

## Recognizing the Child’s Feelings

The general principle here is that children, like adults, need to be understood, especially by someone important to them. Children have feelings. Recognizing those feelings and letting the child know that you recognize them often helps the child to feel better. It is extremely important, however, to realize that a parent can recognize a child’s feelings and



communicate that recognition without either criticizing or praising him. If the child is returning from his room, where he has been sent because of lack of control, the parent can help by saying something like “You must have felt that it is very difficult for a seven-year-old to always remember his table manners, and you must have been angry at Mommy for making you leave the table.”

By recognizing and acknowledging feelings in a neutral way, the parent can make the child feel more comfortable.

### **Helping the Child Distinguish Between Feelings and Actions**

The major principle here is that feelings can and should be expressed, even if they are bad. A part of the same principle is that feelings and actions are not the same thing. Children, like adults, often have feelings that “they should not”; they are sometimes envious, jealous, angry, or resentful. All children have these feelings. In certain circumstances everyone has them. Children often feel guilty about having such feelings. They have learned that one should not be envious, jealous, angry, or resentful. It is very helpful if the parents, as discussed in the previous section, acknowledge to themselves that the child has such feelings (when he does) and let the child know that they (the parents) know. The parents must help the child distinguish between feelings (which are acceptable) and actions (which are not). Actions—that is, behavior, can be changed and shaped; feelings cannot be changed so directly and should not be treated as if they could be. If the child sees that his parents recognize and tolerate his feelings, his anxiety about having them may be relieved. His relief alone may often release enough steam so that the

child will not act on his bad feelings. The child will feel less guilty if he knows that bad thoughts do not mean that he is bad and worthless in his parents' eyes. Because in the past he has acted in ways that have been considered unacceptable, he is likely to regard having comparable thoughts as equally reprehensible. The parents should repeatedly communicate to the child, directly and indirectly, that any bad thoughts he might have are not terrible so long as he does not act on them. He will sometimes feel very angry with his baby sister; he should express such anger and his parents should help him express such angry feelings. He should not hit his baby sister. Parents should help the child understand the difference between thinking and doing.

### **The Technique of Labeling**

One extremely important technique in helping the ADHD child recognize and do something about his behavioral problems is labeling. Before the child can even begin to attempt to control his own behavior, he must know when he is doing something that is troublesome to others and hurtful to him. The catch is that many of these things are rather complicated. It is easy for a parent to tell a child, "When you lie down on the floor, scream, or pound your heels, that is a tantrum" and "Mommy will not talk to you until the tantrum is over, and if you cannot make it stop quickly, you will have to go to your room until it is over." A three-year-old can learn what a tantrum is. But some of the ADHD child's trouble-producing behaviors are more complex. For example, he may devise sophisticated techniques—and have a variety of them—for bugging his brother and sister. His father and mother cannot draw up a complete list of bugging behaviors.

An enterprising, intelligent ADHD child can find multiple ways of annoying others. To help the child identify and recognize such behaviors, the parents should choose a code word. The code words we use are “bugging” and “teasing.” Every time the ADHD child bothers his brother or sister this way, the child is told, “You are teasing.” After a few dozen repetitions—and parents will have many, many opportunities in the course of time—the child learns to recognize that a whole group of different things can be called teasing. It is no harder for the child to learn this than it is for him to learn that Great Danes, Dachshunds, and Chihuahuas are all dogs.

Once the child has learned what teasing is, the parents can expand the usefulness of the procedure by dealing with new occurrences in a different way. When Billy is pretending that he has lost his sister’s doll, the parents can say, “Billy, what are you doing?” The intention now is to have him label his own behavior, which is a step toward taking more responsibility for it.

Labeling is a useful technique for several common problems, such as having trouble with attention or getting excited. Parents should actively look for and invent labels for the particular problems of their ADHD child that may lend themselves to this procedure. With repetitive labeling of this sort, parents of the ADHD child can generally help him to identify what he is doing. This is not easy. Even adults, without the handicaps of ADHD, do not easily recognize the different ways they can be neurotic or just plain difficult. It is not surprising that an immature ten-year-old will have a hard time learning what is objectionable about his behavior.

Scientific investigation of the usefulness of teaching children to recognize their own troublesome behavior is

in an early stage. Interestingly, Russian child psychologists have been examining for some time the ways in which language can help a child to control himself. They feel that self-labeling is the first step in self-control, and that the sooner the child learns to label what he is doing, the sooner he can learn to control himself. Although definitive evidence is not yet available, our clinical experience has impressed us with the usefulness of labeling as an additional parental technique.

## **THE MANAGEMENT OF COMMON PROBLEMS OF THE ADHD CHILD**

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The procedures, principles, and techniques described thus far refer to overall approaches to the ADHD child. In addition, we have some special suggestions that may be of help in managing a few specific common problems of these children.

### **Getting the Child's Attention**

One of the ADHD child's major problems is paying attention. And one of the major problems of the parent of an ADHD child is getting the child's attention. If one wishes to communicate effectively with an ADHD child, one must use some special techniques. For example, often the parent will give a command to or make a request of an ADHD preschooler while the child's attention is elsewhere. In non-ADHD children such a parent request may catch the child's attention. In the case of the ADHD child, it usually does not. Even if the parent has the ADHD child's attention, the child may not wish to hear what the parent has to say and

may place his hands over his ears or turn his head away. The following procedure should then be employed: the parent should take the ADHD child's head (or shoulders) gently in his (or her) hands and give the child the message. Then, to be sure the child has received the message, the parent should ask the child what he was told, not in a punitive way but in a neutral tone. If the child does not know, the parent should make the statement again. Physical contact seems to play an important role in gaining the child's attention. When the message is given with the parent's hands placed on the child's shoulders, the child seems to pay better attention than he does when not touched.

Although these instructions have mentioned the preschooler, physical contact may still be useful with the older child as well. So is the procedure of asking the child what it was that he was told. Parents should remember that if they find themselves yelling in order to get the child's attention, something has gone wrong.

## Rigidity

A characteristic of some ADHD children—although it can be seen in non-ADHD children as well—is rigidity. Rigid children are upset when their activities are interrupted or their routine is changed. For example, they may become furious if they are stopped from playing with their toys so that they can be taken on a visit to Grandma's. Or they may begin screaming if the order of putting on their clothes is varied. One three-year-old ADHD child had a tantrum if the family drove to Grandma's house by a different route.

Rigidity sometimes disappears with age, but there are effective ways of dealing with it before that blessed time

comes. The major principle is anticipation. Long before the break in routine occurs, the parent should repeatedly tell the child what is going to happen. For example, if the child is playing with his blocks and cars and the time to leave for Grandma's is two hours in the future, the parents should begin a countdown: "Billy, we will be visiting Grandma in two hours." Then, an hour later, "We will be leaving in one hour. It's time for you to put the trucks away." Next, "Billy, we are leaving for Grandma's in fifteen minutes. It's time to put the blocks away, change your clothes, and put your shoes on." With older children, to avoid repeated nagging, kitchen timers can be invaluable. Even before the child can tell time, he can recognize when the pointer is approaching the "O" that will start the bell. Rather than giving countdowns every morning for getting dressed to go to school, one can substitute the timer.

Similarly, considerable grief can often be avoided by discussing long-term changes before they occur. Repeated anticipatory talks about such matters as furniture moving, new sleeping arrangements, and altered school programs can frequently soften the blow for the rigid child. These procedures, of course, do not change the child's rigidity, but they lessen its unpleasant impact.

### **Spiraling Loss of Control**

A very frequent problem of ADHD children, both as preschoolers and during the first few grades, is a spiraling loss of behavioral control. This refers to the child's becoming increasingly wild and behaving more and more immaturely once he is set off. For example, when guests come, the child may act in an attention-seeking manner, and as soon as he

gets the attention, may react with foolish and noisy behavior that steadily worsens. After first telling the guests a story or showing some of his models, he may begin to talk more loudly, start running around, and in some instances bounce off the walls. This may also happen in noisy or stimulating situations, such as the supermarket or the circus.

How can this loss of control be handled? To begin with, it is helpful if parents learn to recognize the early symptoms of this behavioral breakdown. It is far easier to reverse such cycles shortly after they have started than when they are in full swing. When the parents recognize the symptoms of an impending behavioral spiral, they should caution the child with a phrase that is always used when the child is excited—and here we see again the labeling technique in operation. Different parents use different phrases. Some parents will say, “You are getting too wild,” while others might caution, “You are becoming overexcited.” The important point is to label the same kind of behavior in the same way every time so that the child can learn what the parents mean by the special phrase. After the parents have identified the behavior, the child should be told to go to his own room and remain there until he has calmed down. If necessary, he should be taken to his room. Once he has calmed down, the child should receive no punishment but in fact should receive praise for having gotten control of himself and acting like a big boy. Then, in a nonaccusatory tone of voice, the parent should explain to the child what happened before and what caused the parent to label that behavior as wild or overexcited. In other words, parents should make sure that the child is praised (gets positive reinforcement) for acting quite grown-up, and that the

child receives no extra attention—positive or negative—for being out of control.

Thus, the best thing to do about spiraling loss of control is to try to avoid it. To use a variation on an old cliché, parents should be ready with that invaluable ounce of prevention. They should learn to recognize the situations that trigger these spiraling reactions and either avoid them or remove the child as soon as possible from them.

## Verbal Tantrums

One of the kinds of loss of control seen in both younger and older ADHD children is the verbal tantrum. Such behavior is probably more mature than breath-holding spells or down-on-the-floor kicking tantrums, but parents are not overjoyed at this kind of maturation. During the tantrum the child may talk (or yell) continuously, criticizing, blaming others, and denying responsibility. He may bring up not only trivial matters but also honest-to-goodness problems that exist in the family. These nonstop productions are limited only by his talkativeness and how his parents handle the problem. The natural reaction of most parents is to argue. The major advice we have is that a parent should not argue at all. A mutual screaming match solves nothing. While the child is having the tantrum, he should be told that matters will be discussed when he quiets down. If he is unable to quiet down, he should be placed in a time-out room, and only *after* he quiets down should the parent talk with the child about the real problem. Parents who frequently find themselves yelling can interpret that as a warning sign that they are doing something wrong—not bad, just ineffective.



## Chores

Although particular chores have been used as examples in the preceding sections, we are giving special attention to the entire subject of getting the child to do routine, age-appropriate chores because it is one of the most common causes of friction between the school-age ADHD child and his parents. At first, nonperformance may be a result of forgetfulness and the child's inability to organize well. If the parents become angry and nag—and, except for a few saints, most become angry—the child may become increasingly stubborn and negative. This may lead to a snowballing of complaints by the parents and goldbricking by the child.

The best way to make sure that chores are done is as follows. First, list all the chores you want the child to do. Second, arrange them in order of importance (“1” next to the most important task, “2” next to the second most important task, and so on). Then, write down one or two of the most important chores on a homemade calendar and place this calendar in a conspicuous place, say, on the refrigerator. For example, if one chore is to set the table every other day (as sometimes happens when a brother or sister is also doing the same chore), the calendar should have the child's name listed on each day he is to perform it. If there are two chores involved, such as setting the table and clearing it, each should be listed separately on the day it is to be done (whether every day, on alternate days, or according to some other schedule).

Parents should avoid any disputes about what constitutes the chore by writing down its specific components. In setting the table, does one only have to place the silverware

and dishes, or does one also have to bring the butter and milk from the refrigerator, and so forth? Assuming reasonably good parent-child relationships, many children will be compliant about chores if the requests are specific and structured enough.

If the child is resistant, the behavior modification principles we have mentioned should be employed. For example, parents could establish a rule saying that full payment of allowance will be made only if setting the table is done, without nagging, six times a week. With such a rule, if the chore is done only five times in a week, the child is docked in some mutually agreed-on way—such as receiving only five-sixths of his allowance.

After the most important chores are being done on a regular basis, the parents can move on to the next chore. Again, the calendar should be kept, and directions should be very clear and specific. Parents will avoid hassles if the rules are easy to understand and clear-cut. If they are not, the opportunity for legal arguments is much greater. And, as all parents know, most children are born lawyers.

## **Having the Child Take Responsibility for Himself**

All parents hope that eventually the child will take responsibility for monitoring his own behavior. The procedure discussed under “Chores” illustrates one way of establishing a habit of responsibility. Here we will describe another method of encouraging responsibility. This example deals with another recurrent problem of the ADHD child: forgetting to bring his school assignments home, which means that he does not do his homework.

For this problem, we suggest that the child be given a small notebook in which he must write down *every day* before arriving home from school the work he actually accomplished at school and what was left undone in each subject that day. If homework assignments are given, he should write down those assignments while he is in school, in the same book. It is his responsibility to write this information down. At the end of the week, the parent should contact the child's teacher to make sure that the child accurately recorded the completed work, the daily work that he did not finish in school, and the assigned homework. The trick with this technique is making the child responsible for telling on himself. We find that if the child reports accurately, he will be in a better position to proceed with the unfinished work and the homework and is more likely to complete both kinds of assignments after school. If the child fails to write the information down, he is docked part of his allowance or other privileges. In some instances, it may be better to start with a smaller allowance and reinforce the child by giving him an agreed-on bonus when he writes down the assignments correctly. After the child has mastered these tasks completely, the parents can often gradually withdraw the reinforcement and return to the usual allowance. After the notebook procedure has continued several weeks, the parents need only spot check with the teacher. However, as with most responsibilities expected of most ADHD children, the child should continue to use self-monitoring techniques long after his behavior is satisfactory. It is our impression that, by really overdoing these techniques, parents can finally depend on the child to maintain some behavior patterns without such external supports.

Although this example involved school assignments, analogous procedures—with notebooks or calendars—can be worked out for such areas of the child's life as personal hygiene, grooming, music and dancing lessons, and so forth.

## **SPECIAL PSYCHOLOGICAL HELP FOR THE FAMILY AND CHILD**

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From time to time, we have referred to the fact that in some families—either because of the presence of the ADHD child or for entirely different reasons—there will be much family stress and strain. These family difficulties cause problems for any child, and they may cause greater problems for the ADHD child. If parents cannot agree between themselves about rules for their children, if they do not consistently reward or punish, if they criticize one child or favor another because of their own personal issues, they will create psychological difficulties for their children. Obviously, families with disturbances need professional help, regardless of whether or not they have an ADHD child, and this is the kind of situation in which help can be provided by psychiatrists, social workers, or psychologists. Any steps that will decrease difficulties within the family will be of special benefit to the ADHD child, because adjustment to even ordinary social demands is already difficult for him. Even if he responds well to medication, he may not respond to emotional stress as flexibly as a child who does not have the problems associated with ADHD.

Another form of specific psychological help that is *sometimes* useful for the ADHD child, but only one treated with

medication, is psychotherapy. The child meets with a therapist, either individually or with other children in a group. The purposes of psychotherapy are to enable a child to recognize and understand his feelings and learn to deal with them appropriately. Psychotherapy, a very popular mode of treatment, has in the past been considered the best treatment for virtually all psychiatric difficulties both in adults and children. Currently, however, one of the major questions in adult and child psychiatry concerns the effectiveness of psychotherapy for particular problems. Specifically, there are no data whatsoever supporting the usefulness of psychotherapy in treating or altering the basic symptoms of ADHD children. Nonetheless, many experienced psychiatrists have found that counseling is sometimes a useful auxiliary technique with some ADHD children. In our experience it has been most useful with older ADHD children, especially those who have “engrafted” a poor self-esteem and psychological disabilities on their temperamental ones. Many of the difficulties of these children concern interpersonal relations, and it is our impression that psychotherapy has proved useful with some of these children some of the time. These have generally been ADHD children who did not receive treatment with medication in their earlier years and as a result fell into the vicious circle of school and familial problems. They seem to have benefited from a relationship with a warm and impartial adult who was able to provide them with some understanding of their problems and help them in the construction of solutions to these problems.

Certainly individual psychotherapy is not the treatment of choice for ADHD children. Medication goes to the root of the problems. Psychotherapy may help to deal with some of the branches that, so to speak, have grown in the

wrong direction. Many parents do not feel this way. We remember one very sophisticated mother whose seriously afflicted ADHD child responded dramatically to medication. At the first visit after medication had been started, the mother reported, “Tim is 100 percent better, Doctor. Now let’s put him in psychotherapy and really get to the root of the problem.”

## EDUCATIONAL MANAGEMENT

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As we have said, ADHD children frequently experience academic difficulties that arise from two major sources. First, most ADHD children as we have said are likely to have some problems in learning because of their distractibility, lack of stick-to-itiveness, readiness to give up, tendency to rush through things, and inability to discipline themselves (especially with respect to doing homework). *Some* ADHD children also have the specific learning problems in reading, spelling, and mathematics that are classified as developmental disorders and are called learning disorders (LDs; see description in Chapter 2).

Therefore, there are two groups of ADHD children with learning problems: (1) those whose learning problems are secondary only to distractibility and inattentiveness; and (2) those whose learning difficulties are secondary to these inattention difficulties and also to learning disorders. Because of its effect on the child’s overall organization and attentiveness, medication sometimes eliminates and frequently diminishes learning problems. However, even among those in whom the ADHD learning problems diminish with medication, additional educational assistance

is often needed. Too often, by the time the ADHD child's academic problems are recognized and treated, he has failed to master basic material and has fallen behind in many subjects. Learning problems are cumulative, even in children of normal or above-normal intelligence. Consequently, the child cannot compensate for his educational losses, despite improved functioning, unless remedial or "catch-up" tutoring is provided in those areas in which he has fallen behind. The problem of cumulative educational shortcomings is most severe in those ADHD children whose difficulties are first recognized in adolescence. They have often received social promotions and may be several grade levels behind in a number of subjects. Unfortunately, although medication may still be effective, appropriate educational facilities are often not available, and these children, frustrated and embarrassed by their poor academic showing, tend to give up.

The ADHD children with learning disorders present another problem. Medicine *may* improve their attention span and stick-to-itiveness, but it does not remedy their learning disorders. Scientific experiments have shown that stimulant medication is no more effective than an active placebo in facilitating learning in children with reading disorders. What is effective—to varying degrees—is special remedial education. However, although many people have investigated the teaching of "dyslexics," and people with doctoral degrees in special education have recommended many different approaches, there is no consensus about which children do best with which special education. Effective teaching can improve the reading and spelling performance of children with reading and spelling disorders, but with limits on the improvement that can be expected.

Reading and spelling may continue to be problems as the child grows older, although the extent of the problem will vary, depending on the child's responsiveness, the nature of the teaching, the emphasis in the school, and the child's interests. For example, some private schools and a few public schools have been able to help children of normal intelligence with reading problems by the use of audiotaped material and oral tests.

Similarly, mathematics disorders—at least as far as arithmetic is involved—are now less of an academic handicap than they once were. The calculator has been an enormous help to those who have difficulty in doing complex addition, multiplication, and division. If the child can master columnar arrangement and the placement of the decimal point, he can solve the problems. Being calculator dependent may not be an asset, but it is certainly not a great liability.

Because many educators do not recognize ADHD children as a unique category, they may place such children in special education classes, even though they have no specific learning problems. In addition, many children placed in these classes have both ADHD problems and learning difficulties. In both types a trial of medication is generally useful. To repeat, there is no way of predicting a child's response, and one may anticipate that some problems will disappear, whereas others (including the learning ones) may remain. Any child who has been placed in a special class without a specific diagnosis of his difficulties should be carefully evaluated to see if he has ADHD problems and is therefore eligible for a trial of medication.

It may be useful to mention some educational approaches that have been tried but have not demonstrated effectiveness. A number of people noticed that some children had both



learning and coordination problems. (Approximately half of ADHD children do have some coordination difficulties.) These people reasoned, erroneously, that the learning problems were probably the result of the coordination problems. (Both are probably the result of a third factor.) They also believed that training in coordination might improve the learning difficulties. For this reason they prescribed exercises, involving either the whole body or the eyes. *At present, there is no evidence whatsoever that coordination training will help the ADHD child's learning difficulties.* The statement applies to specific treatment programs of eye exercises.

However, coordination training *may* help the ADHD child's coordination problems and ultimately his self-esteem. To be chosen last when teams are being picked and to be ridiculed for athletic inadequacy are blows to the ADHD boy's already shaky sense of self-esteem. There are programs in physical reeducation—not readily available—in which the children receive specific tutoring in motor tasks of increasing difficulty. Our impression is that these programs sometimes improve the child's coordination and generally increase his self-confidence. If such programs are not available, the parent may help the poorly coordinated ADHD child by guiding him toward physical activity in which fine coordination presents less of a problem. As mentioned, many ADHD children have particular problems with hand-eye coordination and as a result are worse in such sports as baseball and tennis. Sometimes they encounter less difficulty in football—particularly in line play, where gross body movement is required—or in soccer. These children may often perform adequately or excellently in sports requiring large muscle control, such as running or swimming. Karate or taekwondo are also good activities for the ADHD child; even

though he may not do as well as the non-ADHD child, he can acquire skills that give him the novel feeling of being a “big man,” a feeling that often considerably bolsters his self-esteem. Soccer, volleyball, and ballet would be good choices for the girl with ADHD.

## **SPECIAL PROBLEMS OF ADOLESCENCE**

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The child whose ADHD is only discovered in adolescence poses several practical problems. The first is that he already has had years of unhappy experience as a result of his ADHD. The second major problem is that adolescence is a time of rebellion for most children, ADHD or otherwise. Because the child is now increasingly independent, his cooperation in the treatment program is absolutely necessary. Furthermore, the behavioral techniques previously discussed are more useful with preadolescent children.

Most clinicians who treat many ADHD patients find that it is much easier to treat an adolescent who has been treated and followed since childhood than it is to work with an adolescent who has never been treated before. This is quite understandable if one thinks of some of the major psychological issues of adolescence. If an adolescent is diagnosed as having ADHD and if medication is recommended, think of what problems may follow. In general, the adolescent is not complaining himself. Like the ADHD child, he is brought to the doctor because he is not doing well and (probably) causing problems for others. But the adolescent feels that he is different—that he has different tastes, values, and wishes—and that treatment is being recommended not

because he has a disorder but because he is not the way his parents would like him to be. Another issue is self-esteem. An adolescent's self-esteem is always shaky, and the ADHD adolescent's self-esteem is even worse. Learning that he may have to take medicine for a condition of which he was unaware (ADHD) can be another blow.

The difficulties in treating the adolescent for the first time are not insurmountable, but they do cause serious problems. If the adolescent can be convinced that the medication is something that is being done for him rather than to him, his cooperation can sometimes be obtained. Similarly, if he can be convinced that medication will give him more freedom by giving him more control of himself, he may be more willing to take it. Otherwise, he is likely to see medication as a chemical straitjacket employed by an oppressive adult world to control someone whose views differ. If he can be persuaded that medication will help him to control himself, he may accept its use. Unfortunately, without previous experience with the medication, he cannot know that he can still remain rebellious if he chooses to do so. He may find it difficult to understand that improved concentration will enable him to do better at studying subjects he is interested in—although he may still object to having to study some of the required parts of the curriculum.

Because of these problems in treating an ADHD adolescent for the first time, clinicians much prefer to recognize and treat ADHD as early in childhood as possible. Treatment in early childhood does not prevent symptoms in adolescence, but early experience with medication and with the therapist enables the child to understand that medication may help him and that the therapist can be a friend who

is not an agent of his parents. If that child still requires medication in adolescence, he accepts it more readily.

On the positive side, the adolescent is in a better position to understand and recognize the basis of his difficulties. This understanding, if it can be obtained, may balance out other problems. From a practical standpoint, helping the adolescent ADHD child generally requires the treating physician to spend more time in seeing the adolescent individually or with his family as part of family therapy.

If the ADHD adolescent has had serious learning problems, the situation may be critical. If he is five years behind in reading and spelling, school will be a nightmare. It is often difficult and sometimes impossible to convince such an adolescent that he is not a "retard." If he can be made to realize that he has reading problems that are not associated with intelligence and that he is not a moron, half the battle has been won. The second half is more difficult to accomplish. He must be entered in some kind of program in which his abilities will allow him to succeed and in which his disabilities will not seriously penalize him.

## SUMMARY

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In capsular form we would like to repeat the major points of this chapter.

First, most ADHD children respond to medication. *All* ADHD children deserve a trial of medication because there is absolutely no way of predicting which children will respond well and which children will not. Sometimes medication alone is enough. Because the prescription of

medication requires a doctor, a physician must always be involved in the treatment of the ADHD child.

Second, changes in the relationship between the parents and the ADHD child are almost always helpful. Understanding and establishment of firm, consistent, explicit, predictable rules are always useful. Frequently, these can be achieved with little or no professional intervention, yet sometimes the assistance of a psychiatrist, psychologist, or social worker may be helpful.

Third, some ADHD children need educational assistance. In many instances this will involve only remedial education, whereas in some cases it may mean special education. With such interventions, most ADHD children can be helped, often to a substantial degree. Not only will these forms of intervention diminish the present problems of ADHD children, but they will also often help to prevent future ones.

## ILLUSTRATIVE CASE HISTORIES OF ADHD CHILDREN

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Patient Name: Arnold

Diagnosis: ADHD, combined type: inattentiveness,  
hyperactivity, impulsivity

*Arnold was a nine-year-old boy referred by his school public health nurse with the following complaints: “disruptive classroom behavior, a discipline problem at home. Outbursts of misbehavior—seems to lack self-control, especially when not under direct supervision of a teacher (hits other children for no reason, rolls on the floor, jumps*

*off chairs). Even under his teacher's direct supervision, he talks out, makes facial grimaces. He gets out of his seat frequently. Even during his "quiet moments," he seems tense; cracks his knuckles, plays with buttons on clothes, can't sit still. Has no close friends at school; seems to reject other children's attempts to make friends. He has above-average ability, but not working up to that level now: The boy's behavior problems and academic problems had been aggravated by a family move and entrance into a new school. Reports from his previous school revealed, however, that Arnold had never been well adjusted; he had "spit, hit, and had temper tantrums . . . his behavior fluctuated drastically . . . sometimes he was moody and at other times exceptionally mean." By his mother's account, which his father tended to contradict, Arnold had always been very active, had been "always into things and on the go," had "no interest span," no attentiveness, no stick-to-itiveness, and had blown up easily and cried readily. He had marked sibling rivalry; his eleven-year-old brother had always been a model student and son.*

*When interviewed, he was a large, good-looking boy who talked openly and clearly, was not depressed or anxious, and had a good ability to relate. The first problem at referral was that his father had reacted to the referral with marked hostility, stating somewhat angrily that he had been similar as a child (and, although similar, had no problems) and had done pretty well.*

*The intake worker was initially unable to make Arnold's father less belligerent. He told Arnold's father the school's complaints about Arnold were not indirect criticisms of him as a parent. The worker, who was experienced*

*and tactful, was eventually able to convince the father that he was concerned about how to help Arnold and was not trying to blame the parents for Arnold's problems. The parents were referred for couple counseling and Arnold for individual therapy. In the 1970s, this was the standard therapeutic approach. The therapist was a social worker who knew nothing of ADHD (then "hyperactivity") and missed the diagnosis—as would most non-child psychiatrists at the time. The usual interpretation was that children's problems were a consequence of how they were treated by their parents. The therapist, in the psychological jargon current at the time, interpreted this session with the parents as follows. "They (Arnold, his mother, and father) revealed a very pathological triangle with a very disturbed mother at the core. One can speculate that the interaction observed by this interviewer was typical of this family's interactions. The mother had rejected Arnold, and had labeled him as 'bad, and the 'cause of all my problems.' Therefore, if he is removed (i.e., punished or locked up), things will be all right. The father is brought in by mother's excessive demands, since she is feeling overwhelmed and is dismayed at his being out of control (as his father is usually the instrument of Arnold's punishment). Arnold's reaction to mother's inability to maintain control appears to be his falling apart, impulsivity, and hyperactivity taking over, primarily at school. Hence, then mother is upset, his acting-out behavior is unbearable both at home as well as at school. It is my opinion that Arnold is developing a chronic character disorder, and that without family intervention as well as therapy for him, specifically geared for their difficulties, therapy alone for him will be quite*

unsuccessful.” The family therapy produced no benefit and Arnold was referred to a child psychiatrist who immediately diagnosed ADHD. He explained to the parents that the cause of the problems was largely biological and that they were not due to Arnold’s meanness or willfulness or to a bad upbringing. They accepted his interpretation and both became more tolerant.

Following education of the parents and discussion of the therapeutic plan, Arnold started to take Dexadrine. Initially he was reported to be cranky, irritable, slowed down, moody, and to have insomnia. However, there was some slight improvement, and accordingly it was decided to increase the medication cautiously. Slowly increasing the dose over a period of several weeks allowed him to reach a dose that provided behavioral control without producing side effects. He returned to school, where his startled teacher reported that the hyperactive behavior had disappeared, that he had no difficulty with his peers, and that he attended to his studies. At home, his “temper” stopped entirely, discipline problems virtually disappeared, and he no longer fought with his brother.

An ironic and informative side effect of Arnold’s successful treatment was the appearance of slight behavioral problems in his brother as Arnold improved. This phenomenon of one family member apparently becoming more ill as another becomes better is well recognized by family therapists and attributed by them to a need to maintain family balance. It is argued that one member’s sickness was “serving a need for the family,” and that when this member’s psychological adjustment improved, it was necessary for another member to become ill. There is



*another interpretation. In this family, what occurred was that the parents had previously not noticed the brother's comparatively minor difficulties until Arnold's conspicuous problems were ameliorated. When this happened, his older brother's minor problems became more visible. They began to discipline him for them, and he reacted predictably, fighting more with his parents. The situation was explained to them and to the family in their therapy, and the parents reduced their excessive expectations. The demands of the older brother, as well as his problems, gradually diminished.*

Patient Name: Bobby

Diagnosis: ADHD, oppositional defiant disorder,  
clinical depression

*Bobby was first evaluated when he was fifteen years old. He had been referred by his parents because of continuing difficulties that had been unsuccessfully treated with individual psychotherapy at a mental health clinic. The parents were concerned about their son's "continuing to do very badly in school . . . that has been true since kindergarten . . . his attitude is negativistic or just indifferent."*

*Bobby was the middle child of three children, all of whom had done poorly academically despite superior intelligence. His older sister, a sophomore in college, had obtained Bs and Cs in high school despite a high IQ. His nine-year-old sister had a full-scale IQ of 148 (which placed her well above the 99.9 percentile) and was getting low Bs. This sister was described as "unable to finish her*

*work in school and unable to relate well to her peers.” She was “wild, positive, domineering.” On a scholastic aptitude test, Bobby placed above the 99th percentile verbally and in the 87th percentile nonverbally. He obtained Cs and Ds in all his subjects at the time of this consultation.*

*The family background was most interesting. Bobby’s father was an extremely bright, driven, self-made man, who had been raised in the backwoods of New England and was currently employed as a high-level computer executive. His school performance had been variable, and despite his ADHD, he had achieved respectable grades that he probably attributed to his brilliance. He “hyper-focused” and excelled in all aspects of computer subjects. His wife was an English-speaking ex-war bride, who had been chronically depressed for a period of several years. The parent’s marital adjustment was poor. Where formerly they spent much time together, they now systematically avoided each other. The boy’s father took every opportunity to take long business trips, while the mother kept herself at home. She had a large and close-knit family several thousand miles away and had made no effort to develop close friends in this country.*

*The family was initially seen together, and the group meetings were sparkling. The mother emerged from her depression to talk intelligently and amusingly and joined in with a skill not to be expected in even a very clever depressed adult. Underlying the banter, his parents were worried and confused about their children’s collective academic failure. Both had expressed their dissatisfaction with Bobby particularly, and he responded in kind. In their previous therapeutic experience, the family had been*

*treated in a two-generation group. What the therapist perceived as the source of the problems was not clear, but the parents felt that he had repeatedly implied that they had been excessively demanding and had therefore caused their children's problems. It was quite clear that Bobby's performance (like his siblings') was not in accordance with parental expectations. The parents were angry at the implication of the previous therapist that they had caused their children's troubles; they believed, rather, that they had merely reacted to them. As is usually the base after the fact, it was impossible to disentangle how many of the problems were initiated by the children and how much they were aggravated by the responses they produced in their parents. But there was no question that all three children showed ADHD symptoms at an early age and had academic problems from the time they entered school. There was a strong suspicion that the children would have had academic problems given any set of parents.*

*Bobby's developmental history was "classically" that of a child with ADHD of a combined type. He was "crying when born . . . and had problems from age two." He was described as hyperactive in early childhood, always on the go, and unable to sit still. He "habitually" destroyed toys and clothes, and had always been negativistic and excessively independent. He "antagonized other children who . . . wouldn't play with him." He was "almost kicked out of kindergarten." And had been maintaining a partial adjustment to authority ever since. He had been "destructive" in grade school and had continually made inappropriate comments in class. As a school-aged child, he had clowned and talked loudly. As a brilliant adolescent, he baited his*

*teachers, talked circles around many of them, and vented his proficient sarcasm on the slower ones; not surprisingly, he was very unpopular with them. He had never gotten into serious difficulty outside the home.*

*His parents reported in passing that he had been poorly coordinated all his life. Despite their efforts to teach him, he was unable to tie his shoes until he was ten years old. He was still a bad athlete in visual-motor sports but had compensated by participating in track and swimming; he had wisely chosen sports in which many ADHD children succeed.*

*Bobby partially acknowledged that he was having difficulties, but he attributed them—as did his family—to his superiority. He realized that others disliked him for his abilities, but he totally failed to see that he goaded them into hostility. His poor academic performance he attributed to a lack of interest, and as a demonstration of his own academic abilities, he cited his performances outside of school. On interview, he revealed a side of himself that the parents did not recognize. He reported a mild chronic depression, a feeling that life was at best boring and often painful. He expressed other symptoms of clinical depression: guilt; frequent thoughts of death and occasional thoughts of suicide; sleep problems; low self-esteem and pessimism about his life and future; and he worried obsessively about the future.*

*We felt Bobby was an ADHD child whose initial ADHD symptoms had continued although changed with age, but who was suffering not only from a continuation of his previous difficulties, but also from psychological characteristics ingrained on the basis of these difficulties—and*

*because of these he was in conflict with his parents. Finally, he was suffering from symptoms of a moderately severe biological depression. Because the depression seemed the predominant problem, he was begun on a trial of antidepressants, and within four weeks gradually began to experience an improvement in his mood. His ADHD symptoms—as expected—persisted and a course of Ritalin was introduced. His concentration improved, he quieted down, and stopped his angry argumentation with his teachers. He described himself as decreasingly boisterous and manifested pride in what he perceived as his increasing ability to control his own behavior. Over the next several months his grades improved from Cs and Ds to Bs with two As. He and his parents received weekly psychotherapy, and then once every two weeks for a period of four months. During this time, he developed a new modus vivendi with his parents. He acknowledged his father's domineeringness and his mother's depression and intrusiveness, agreed that these were defects that were unlikely to change, and began to accept their limitations. At the end of the six months, his school behavior and grades had improved, as had his family relations. The mother's depression had become more apparent, along with the boy's father's increasing unwillingness to admit the now rather obvious mental illness in his wife and the probable biochemical problems in his children. He decided independently that he did not want his son treated with agents whose long-term effects were not known. Our scientific limitations were agreed with, but we mentioned to him that such possible dangers had not been demonstrated to be weighed against the present effects of discontinuing medication. The boy's father decided to*

*discontinue both medications, and over the next several weeks Bobby's depression and boisterous school behavior returned, his grades declined, and his family problems reappeared. The boy's father became increasingly upset and depressed, withdrew from treatment, and refused to seek further treatment for either Bobby or his mother. Follow-up is not known.*

Patient Name: Carl

Diagnosis: ADHD, inattentive type; learning disorder

*Carl's mother brought him for evaluation when he was ten years old because of his behavior and learning problems in school. She reported that one of her other three boys (nine, twelve, and fourteen) had reading difficulties and spelling problems. The mother herself had rather serious reading difficulties as a child and even now, at age forty-one, had some slight persistent difficulties, which were not preventing her from getting her PhD in social work.*

*The boy himself had an interesting history. His development was somewhat slow; he walked at one and a half years; he spoke in sentences at about three years. The parents had considered him quiet as a baby and perhaps somewhat fidgety as a toddler. Of his attention span, the mother reported, "If he is interested, he is there until it is completely done." The parents reported that he was unassertive socially. In preschool he was shy. Having entered nursery school at age four, he refused to talk and began again only when he was five. "He forms friends*

*slowly . . . he doesn't fight . . . he is initially ill at ease with new children . . . the other children in my family are even less sociable."* (Both parents describe themselves as having been shy during childhood, and both presented a picture of well-adjusted introversion.) The school complaints had been typical; short attention span, inability to complete work, and daydreaming in class. His IQ was normal, and he was reported to be dexterous manually. Achievement tests revealed reading and spelling performance of a normal seven-year-old; that is, he was two years behind his predicted level of functioning and had a learning disorder. The mother was informed about the learning disorder, the school contacted, and arrangements made for receiving remedial help because of his problems with inattention and distractibility. The second part of the treatment was to give him a trial of stimulant drugs. His mother reported that the combined approach was very successful. Treatment had been "marvelous," with a total disappearance of his academic difficulties in school and an unasked-for improvement in his behavior at home. Although the mother had previously not complained of the behavior at home, she realized that when he was off medication in the summer, his behavior had reverted to its previous status, which had been less good than she had remembered. On the medication, his shyness lessened and he became more popular. The boy refers to Adderall as his "magic pills," and he never failed to remind his mother to give them to him on those rare occasions when she forgot. With continuing administration of medication and special education, his reading and spelling improved, although he still remained one

*to one and a half years behind the level predicted for his degree of intelligence.*

*He was maintained on medication, did adequately throughout high school, and elected—probably wisely on the basis of his learning disorders—to learn a trade. He has applied to a local vocational college for training as an automobile mechanic.*

Patient Name: Donald

Diagnosis: ADHD, with some conduct disorder problems; learning disorders

*Donald was a fourteen-year-old boy referred to a mental health center by the Juvenile Court. The court had become involved when the boy had been discovered repeatedly stealing small sums of money from the mother of a friend; he had used the money to make small purchases, not in any particular meaningful way (e.g., he did not use the money to “buy” friends). He had not begun stealing in response to any readily discernible change in his family fortune, either financial or psychological. The court had apparently considered a psychiatric referral because the mother had stated that Donald had manifested other psychological difficulties as well.*

*At the time of referral, he was in the ninth grade, where he was getting Cs and Ds. This was representative of his past performance; he had never failed, but had obtained barely passing grades throughout his school history. At school, he apparently ingratiated himself with teachers, and only his mathematics teacher*



*commented on Donald's inattentiveness, difficulty concentrating, and poor peer relations. His other teachers were impressed with the seeming psychological problems of his home life. One teacher indicated that Donald "had some concerns over his relationship with his stepdad. He has told me that there is a lot of disagreement between him and his stepdad. I think something important may be going on."*

*The mother indicated that at home there was indeed "something going on with his stepdad." Donald's father had died five years previously in an automobile accident. This was reported to have been an exceedingly traumatic event for the boy, who learned of his father's death on television before the family had been informed. Donald had been his father's favorite, and his mother—perhaps with a touch of jealousy—felt that Donald had always been overindulged and insufficiently disciplined. Most of his father's failings were "rectified" when the boy's mother had remarried one and a half years following his father's death. The boy's stepfather was rigid, hot tempered, and (the mother felt) "perhaps a little bit violent . . . so I'm afraid to interfere . . . particularly when he has been drinking." The stepfather had been increasingly upset by the boy's close ties with his mother, his poor school performance, and his "instigating" the younger children into various acts of misbehavior.*

*When interviewed, the boy was a good-looking, friendly, warm, open, sad child who was rather vague about the reason for his appearance at the court or clinic. He described his stepfather's jealousy of the close relationship between him and his mother. He stated that*

*his relationship with his mother had been intensified by the feelings of being unloved by his stepfather. The boy was so warm and appealing, and he related so well, that it made the interviewer worry that he might be being manipulated in the manner of some conduct-disordered children.*

*Donald had four siblings, the oldest of whom was married and out of the home. An older brother was also getting along poorly with his stepfather; the younger children, both girls, were not. It seemed very clear to all mental health parties concerned that many of the boy's problems were secondary to a two-generation family triangle, which had been aggravated—as is often the case—by the presence of a stepparent.*

*Relevant aspects of Donald's past history were as follows: "as a baby and toddler, he had been very restless . . . he always had to have something to do . . . he was never able to sit still . . . he had tons of nervous energy . . . he couldn't sit still with reading . . . he never sat for a moment in front of the TV." The mother described a low frustration tolerance, an extremely short attention span, and marked clumsiness, which in earlier days had resulted in his habitually breaking things and in later life had made him a conspicuously poor athlete. In regard to his peer relationships, his mother said that he was "never shy . . . he has always been forward enough . . . but he loses friends . . . he never has any close friends . . . he likes younger children he can boss around." At school, his marks had been at best Cs, and in the upper grades he had usually come home without his books, claiming that there had been no homework. On occasions when he brought work home, he failed*

*to do it. His mother stated that his major problem was “a failure to learn to read right . . . he is like his sister . . . he can’t grasp and retain, they say.”*

*IQ tests showed him to be of normal intelligence, whereas his achievement tests found him to be three years behind in reading, spelling, and arithmetic, thus qualifying for learning disorders in these areas.*

*The mother was unable to explain why Donald’s biological father had preferred the boy to his older brother, but stated that he always had. She felt that as a result Donald had learned to “take advantage of people and use them . . . he plays on their sympathy.” She felt that the boy had little ability to discipline himself, that he failed to learn by discipline at home, but had learned to blame others for his own problems. The mother described increasing difficulties with her second husband, whom she blamed for aggravating the boy’s problems. She felt that this husband was probably right but “too strong” and felt an increased need to take the part of her son.*

*Donald appeared to be an ADHD child, with learning disorders and the beginnings of antisocial characteristics. It was felt that his problems had been aggravated by the handling of both fathers. With limited expectations (because of the clear-cut antisocial behavior), he was begun on Ritalin with caution, and the dose was gradually increased. His mother stated that on the medication he became quieter, more tractable, easier to talk to (in which judgment his probation officer concurred), and his grades improved at school, most Ds having been advanced to Cs. She still felt that the boy continued to be*

*unusually demanding of attention and fearful of being “left out.” Donald described feeling “pretty good” and stated that medicine had made his head “feel clearer” so that he could concentrate much better (“I feel a lot more relaxed.”). His school reported improved academic performance—increased attention, better concentration, decreased daydreaming, decreased stubbornness with a teacher—and improved peer relations (his fighting had diminished considerably). His probation was terminated after a year. His mother reported no antisocial behavior, and although we wanted to get the stepfather into therapy to lessen the friction between him and Donald, we were unable to do so. He continued to do well on his medication for the next two years, and then he and his family moved away. We do not know if he continued to receive medication, and we have no knowledge about the continuation of his antisocial symptoms.*

Patient Name: Elaine

Diagnosis: ADHD, primarily inattentive type

*Elaine was brought to a child guidance clinic when she was eight years old. She presented no behavioral problems whatsoever, either at home or school, but was getting poor grades. She had always seemed to be a bright child, an observation that was verified by intelligence testing, but she was one to one and a half years behind in reading and spelling. Her mother described her as having been a quiet child, inclined to daydream, who would amuse herself for hours. As a preschooler, she loved to be read to, or,*

*specifically, she liked certain books that she would listen to over and over. If the story was uninteresting, she rapidly lost attention. Temperamentally, she was very much like her father, who had been a quiet, “average” child. He had gone to high school, college, and law school at a low B level of functioning and had become an associate in his father’s law firm. He, like his brother, was somewhat dreamy, conscientious, moderately effective, but not an energized go-getter. He felt more comfortable with Elaine’s school problems than her mother did.*

*Elaine represented a type of ADHD child whose primary problems are in inattention, who will not focus on something he or she is uninterested in. The school problem is that the child’s attention is not under “social control.” She would not attend to subjects that she feels are particularly boring, and which primary education teaches by rote. (For some reason, the non-ADHD child can attend when asked to; the ADHD child cannot.) Because these children are not disruptive in school, they are frequently overlooked. Elaine was such a child.*

*She was begun on treatment with Adderall, and her grades improved quickly. Concentration improved, distractibility decreased, and daydreaming almost stopped. She remained a quiet, slightly withdrawn child, but her academic performance improved and she became somewhat more extroverted.*

*Elaine is currently twelve years of age and still requires and responds to treatment with Adderall. Her grades are average, and she presents no behavioral problems.*

Patient Name: Fred

Diagnosis: ADHD, combined type: inattentiveness/  
hyperactivity/impulsivity/oppositional  
defiant disorder and early conduct  
disorder

*Fred was eight years old when he was brought to a child guidance clinic, where his mother recounted a “classic” history of ADHD. She stated that he had been very active from the time of birth, had shown rapid motor development, walking under a year and had as a toddler manifested extremely destructive behavior that was not malicious: the boy was good-natured but was always a “bull in a china shop,” breaking toys and lamps, wearing out his clothes at a prodigious rate. As a toddler and preschooler, he had been impossible to discipline. He inevitably—and good-naturedly—“forgot,” although when carefully supervised he would willingly perform a task. He was extremely outgoing and, until the third grade, had adjusted well with teachers and peers. Despite his noncompliance, his genuine good nature had prevented anyone from becoming seriously resentful of the boy. His parents had been able to tolerate his behavior and consulted the clinic only because Fred was beginning to have academic difficulty in school and to manifest antisocial behavior, stealing small amounts of money from his mother’s purse, and small articles from stores. Fred was a good-looking, friendly, obviously intelligent boy, and when interviewed with his parents, we discussed their concerns about him and their reactions to him; he*

*acknowledged some difficulty, and while not acknowledging his problems, did not deny them either. He had a diagnosis of ADHD, oppositional defiant disorder, and beginning conduct disorder.*

*The parents were counseled, and the boy was begun on drug therapy. Large doses of Adderall and Ritalin proved ineffective. The parents were given education in techniques of behavioral management, which reduced his symptoms somewhat. Over the six years of follow-up, his symptoms improved somewhat. Since junior high school, his grades and behavior both deteriorated. This is typical of untreated ADHD children, or children who (like Fred) did not respond to therapy. His academic problems were intensified by no longer having a teacher who knew him, who was aware of his strengths and weaknesses, and who was able to closely monitor his progress. The problem is worsened in middle and secondary school because the child now becomes responsible not only for moving from class to class, but for obtaining assignments, showing initiative, working on assignments, and returning them. Children who do not respond to medication will experience increasing school pressures and increasing failure. Fred began to lose interest and motivation and to “hang out” with the other children who were beginning to fail academically. Like other such children, Fred began to engage in antisocial activities. When combined with the “normal” rebelliousness of adolescence, these behaviors can lead to substance abuse, and ultimately, to failing in school. ADHD children like Fred are not common, and better therapeutic techniques are necessary to treat them.*

Patient: George  
Diagnosis: ADHD, combined type

*George was first seen when he was ten years old. His mother stated that George had multiple problems: “he has no impulse control, he’s aggressive with other children . . . when he starts things he can’t stop . . . (he) lies about anything and everything, plays with matches, (is) attracted to dangerous things (e.g., the oven), does poorly at school, can’t concentrate, must touch everything, and takes things apart.”*

*His problems may possibly have been due to slight brain injury. His medical history included the following: he was two months premature, his birth weight was 3 lb 10 oz; he was placed in an incubator for six days and was kept in the hospital for six weeks.*

*George had received his first psychiatric evaluation when he was six and in the first grade. They stated that the problems had not improved, and that, if anything, they had gradually become worse. When interviewed, George was of average intelligence, friendly, and showed some minor neurological symptoms on neurological examination; these supported the possibility that his problems had not been caused by genetics but by damage during his early development in the womb. After the rationale of the treatment was explained to the parents, he was begun on a trial of Ritalin. His very surprised mother reported few problems after one week, and when he was seen two weeks later she reported that he was doing “excellently in school” and had been very pleasant at home. A month later she reported with further surprise that “he was beginning to*



*make friends . . . he is in on time . . . he does what he is told . . . children come to the house for him . . . he has never been so good for so long in his whole life before.” The school reported that “George’s behavior change has been a grand improvement. He does not seem as flighty as he appeared during our first semester. His frustration level has been reduced to a level that allows for normal productive days in the classroom. He does now sit and work attentively for a greater length of time than he previously was able to do; his mood has come to be one of a receptive nature to all guidelines of an academic and disciplinary nature. He seems to be more valued as a friend than before. Children now seek his opinion and respect his worth as part of a class.” He remained on medication through high school. Trial discontinuations resulted in decreased concentration, decreased ability to function well at school, and mood swings. He moved away for college, and his family moved as well. His mother reported that he had continued to take medication while at college, also that he was doing reasonably well academically, getting Bs, and was having no problems with social adjustment.*

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# ATTENTION-DEFICIT HYPERACTIVITY DISORDER IN ADULTS

THIS CHAPTER IS BUILT AROUND a long-standing research effort developed in the Department of Psychiatry at the University of Utah School of Medicine. The research was initiated in the mid-1970s by Paul H. Wender, MD, and included as key contributors Drs. Fredrick Reimherr and David Wood. With the publication of our first scientific study in 1976 about the use of medication in adult ADHD, we became one of the first centers to recognize that ADHD continued into adulthood and to begin to study such individuals. We undertook controlled experiments on the effects of various drug treatments on approximately 200 patients whom we diagnosed as ADHD children “grown up”—that is, adults with continuing problems with ADHD. In addition, we conducted experiments on metabolism and drug responsivity in a large number of patients with ADHD in an effort to understand the underlying chemical abnormalities, and we treated scores of patients clinically. Our experience is therefore based on the treatment of several hundred ADHD

adults. (It has been a tremendous scientific advantage to be able to work with adults. They can provide information about the inner experience of being ADHD—something children cannot do—and we have been able to learn about the feelings, reactions, and lives of ADHD adults in a way we never could from our studies of children. We can ask them to give informed consent to allow us to conduct nontherapeutic experiments—something one cannot do with children who cannot give truly informed consent.) Reports on our work have been judged by editorial boards consisting of experts in the field, were published in scientific journals, and most all clinicians now agree that ADHD may indeed persist in adults in their thirties, forties, and fifties, and that in many instances adults with ADHD respond to stimulant medication in a way similar to children with ADHD. Many other investigators have become interested in this area.

At the time we began, most child psychiatrists believed that ADHD diminished in adolescence and disappeared in adulthood. Since then other investigators have explored the development of ADHD children into adolescence and adulthood. As we discussed in Chapter 4, probably one-third to two-thirds of ADHD children continue to have problems in adult life, and as many as one-half of them continue to have ADHD symptoms marked enough to interfere with their functioning as students, workers, partners, or parents.

As we have said, a view that was held in the past was that the reaction of ADHD children to stimulant medication was “paradoxical.” Whereas stimulants usually produce euphoria or excitement in adults, they seemed to result in quietness and settling down in ADHD children. It is not clear whether this same effect is produced in normal children because no one has given stimulant drugs to non-ADHD children over

a period of weeks or months. However, when non-ADHD children with learning disorders are given stimulant drugs, such as Ritalin, they do not calm down but instead often become anxious, irritable, and driven. Thirty years ago the common belief was that, as ADHD children outgrew the problems during adolescence, their paradoxical response went away, and then, as older adolescents and adults, they responded to stimulant medication in the normal way by becoming excited, stimulated, and euphoric.

Reports of clinicians who noticed that adults with apparent ADHD could benefit from stimulant medication were generally neglected. Why? In psychiatry, beliefs arise either because many practicing clinicians observe the same phenomena over and over or because scientific studies demonstrate and affirm the clinicians' observations. Forty years ago clinicians who treated ADHD in childhood were just beginning to observe its course systematically, and they frequently disagreed. Psychiatry and child psychiatry have made substantial advances since that time and what was then a matter of clinical observation is currently being confirmed scientifically. Others have replicated our drug studies and found that ADHD adults respond to stimulant medication in the same way that ADHD children do.

As we have discussed in Chapter 4, considerable further evidence has now accumulated indicating that ADHD frequently persists through adolescence and at least as far as the early forties. Recent studies of ADHD in adults have found the symptoms present in still older people. In our last major study of over 100 patients with ADHD, the average patient age was thirty-nine. As we have mentioned previously, ADHD or some impairing symptoms of ADHD

continue into adulthood in more than 50 percent of children with ADHD. A recent estimate is that as much as 4 percent of adults may be affected.

Our research has attempted to determine the distinguishing features of ADHD in adulthood. In this chapter we have listed the symptoms we believe are present in adults with ADHD. Before we describe them, we want to emphasize that methods such as we have employed must be confirmed by other psychiatric researchers before they can be widely accepted. We have employed all the techniques customarily used to reduce chance of self-deceit—that is, to reduce the chances of our persuading ourselves that what we expect to find is true. However, the help of other psychiatric researchers is needed not only to confirm our methods but also to aid in independently identifying the symptoms of ADHD in adults. Their help is particularly necessary for sorting out ADHD symptoms that are very similar to and can be confused with bipolar disorder.

We included a section on ADHD in adults because it may shed light on the ADHD child's later development, because it may be applicable to the parents reading this book, because we have done scientific research on more than 200 patients that is not generally known by laypersons, and because not much popular writing *based on research* has been published on the subject. Because ADHD clearly runs in families, the parents of the children and adolescents discussed are more likely to have had ADHD in childhood—and adulthood—than people in general. Our hope is that adults reading this book—not necessarily just the parents of ADHD children—who recognize in themselves the signs and symptoms indicated herein may be motivated to receive formal evaluation for possible treatment. We would like

to educate adult patients with ADHD on how they can be treated most effectively.

## THE SYMPTOMS OF ADHD IN ADULTS: OVERT SYMPTOMS

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The symptoms of ADHD in adults that we are going to discuss are those that the research team at the University of Utah has used over the years to explore this disorder. We discovered these symptoms by talking to adults whose parents had been contacted and whom we could retrospectively diagnose as having had ADHD in childhood. We then questioned these adults and their partners about the symptoms they experienced and the maladaptive behavior they exhibited. The official *Diagnostic and Statistical Manual of Mental Disorders*, fifth edition (known as *DSM-5*, reproduced in the Appendix) employed by the American Psychiatric Association cites the behaviors in ADHD children observed by others (so-called signs), not the internal experiences (symptoms) of the children, as criteria for diagnosing ADHD. Children are generally unable to fully articulate or describe their inner life. But many adults can provide us with a detailed account of the emotional and intellectual response that an ADHD adult experiences. Thus, these adults gave us the first full reports from within the disorder and taught us what it feels like to suffer ADHD, not simply what it looks like to an outside observer. Taken together, the symptoms are referred to as the Utah Criteria and provide a thorough picture of the inner and outer life of an adult with ADHD. We devised the Utah Criteria to describe symptoms that are frequently seen in—and cause severe problems for—ADHD

adults, but that are not seen in ADHD children. The *DSM-5* criteria mentioned earlier are also currently used to make a diagnosis of ADHD in adults, although the criteria were originally created to describe children. A more complete picture of the ADHD adult can be obtained from the Utah Criteria described later in this chapter and in the Appendix.

In our early studies, when the diagnosis of ADHD in adults was not widely accepted, we restricted the studies to adults who had the most typical symptoms: *both* attention deficit and hyperactivity. See the Appendix for more information on ADHD, combined type. We wanted to begin our studies with the most clear-cut cases of ADHD. We have subsequently diagnosed and treated individuals whose problems were predominantly inattention and had no symptoms of hyperactivity, either as children or adults. Although many of these patients show a good response to treatment with medication, the diagnoses must be made with great care because attention problems are seen in many other types of psychiatric disorder that do not respond to stimulants. Indeed, they may even worsen when treated by stimulants. Again, it is important to emphasize that our diagnostic methods are still being worked out and that neither we nor other researchers know how much many of them should be present for a definite diagnosis.

The first requirement for having a diagnosis of ADHD in adulthood is that the person *must* have had ADHD in childhood. That is, beginning before the age of twelve, the child had the persistent symptoms of inattentiveness and/or hyperactive/impulsive behavior discussed later. ADHD does not develop in adults who did not have it in childhood.

Most adults have sketchy memories of their childhood and cannot remember whether or not they had the specific

symptoms of ADHD. If the adult cannot remember his or her childhood behavior in detail, good answers may often be found from the adult's "rearing" figure—usually the mother—by asking her about the specific symptoms of childhood ADHD. How to do this—what should be asked—will be discussed in the summary of the Utah Criteria in the Appendix.

However, and this is a big "however," children with other psychiatric problems may have some combination of inattentiveness, impulsivity, or hyperactivity. Therefore, even if an adult behaved this way as a child, a diagnosis of ADHD can be made only if those childhood symptoms clearly were not produced by any other form of psychiatric disorder.

The following problems are those we have found to be experienced by the ADHD adults we studied. Because the study of ADHD in adults is comparatively recent, ideas about the symptoms themselves—for example, which ones *must* be present to make the diagnosis and which are *frequently found but not necessary*—are still changing. According to the official *DSM-5* diagnostic criteria (see the Appendix), the child must have inattention and/or impulsivity-hyperactivity. Our criteria for the diagnosis of ADHD in adults, the Utah Criteria, also follow. They consist of hyperactivity and inattentiveness and two of the five additional symptoms discussed next.

## Attention Problems

Our adult patients experience the same sorts of problems with *inattentiveness* that we observe in ADHD children. They are often able to concentrate on material that interests



them but not on what doesn't. This is true even if the uninteresting things are important. They could not concentrate on fractions as a child. They cannot concentrate on an income tax form as adults. When this problem is severe, they may find it very difficult to read. The inattentiveness often causes difficulties at college, at work, and in other situations in which attention is required for learning. The symptom is often present socially as well, and frequently they are unable to keep their mind on conversations. They do not hear what their spouse said and, as we will mention later, they impulsively reply before she is finished or finish her sentence for her. There is no conversational give-and-take. The same inattentiveness causes problems when they are talking with a group of people. They hear only part of what is said. They miss the drift of the conversation so that when they talk—often interrupting—they have missed the point and talk about something unrelated. Others may wonder where the ADHD adult is “coming from” and give him surprised looks. He is not wanted as a social participant. All psychiatrists working with couples have many times heard the complaint that the spouse does not listen; it is a usual complaint from the spouse of the ADHD adult. Thus, another consequence of the inattentiveness can be disturbed social relationships.

In addition to attentiveness, patients often complain of distractibility. Their train of thought or their activities are interrupted by irrelevant things. They forget where they were or fail to complete their task. One woman, a historian, reported that the following kinds of experiences kept her from working when she sat down in her study: first, she would hear the refrigerator go on; next, she would respond to the cat coming through the cat door; then, she would be disturbed by the continuing rustling of leaves on the roof.

Being constantly disturbed by such stimuli made writing extremely difficult. When she was later treated with stimulant medication, she reported that not only could she focus on her work but she also was able to shut out such distracting noises.

## Hyperactivity

Although hyperactivity is not necessary for the diagnosis of ADHD in childhood, and often disappears as the child grows older, we have studied mainly those individuals who were hyperactive as children. In this early phase of the investigation of adult ADHD, we had used this narrow definition because we wanted to study the most definite—and perhaps extreme—cases. We have done this because we wanted to reduce the risk of studying and treating people whose symptoms look like those of ADHD but in fact are produced by other disorders.

However, we have found that hyperactivity, if present in childhood, often does persist. When hyperactivity continues into adult life, it takes a somewhat different form than in childhood. Of course, our adults do not go running around classrooms anymore, but they are still frequently out of their seats. Often they report nervousness. What they mean is not that they are anxious or worrying but that they grow impatient when sedentary activities are prolonged. They find it difficult to remain seated while watching a movie or TV, reading a newspaper, or studying at college. They feel more comfortable while being on the go, and they are uncomfortable when forced to be inactive. Some patients report that they have an increased ability to sit still if they have performed vigorous activity. One young woman reported that

in high school she could concentrate on her homework for only ten or fifteen minutes at a time, but that she could study longer if she first expended a lot of physical energy. In her case this involved taking an elevator down to the first floor and then running up the twelve flights of stairs to her apartment. After expending this energy, she could concentrate for a full half-hour. Many of our patients are fidgeters. We have had the repeated experience of identifying a new patient in the waiting room as the one continuously drumming on the arm of a chair, as the one tapping his heel, or the one jiggling a crossed leg. During our diagnostic interviews we often find such patients squirming in the chair, tapping their feet, playing with their hands, or picking at their face and hair.

## Impulsivity

Our patients describe difficulties in self-control. They have a tendency to act first and think second. They have difficulty tolerating frustration and often act to relieve that frustration instead of thinking things through carefully. They tend to do things on the spur of the moment and regret their actions later. They do not like postponing decisions and, because they do not think things through, they often do not anticipate fairly obvious consequences of their actions. Socially, like ADHD children, they tend to interrupt when other people are talking.

The negative consequences of impulsivity are greater for adults than for children. Whereas running on the playground may result only in a teacher's reprimand, reckless speeding while driving or gambling often has more serious consequences. The combination of impulsive decision

making and a short fuse (discussed later) causes some ADHD adults to be aggressive and dangerous drivers. ADHD adults are more likely to have accidents, license suspensions, and speeding tickets. Looking only at present pleasure and avoiding thoughts of future pain, adults with ADHD can be impulsive buyers (aided and abetted by credit cards), initiators of foolish business activities, and participants in short-lived romances and marriages. An unsubtle instance of impulsivity occurred in one of our studies. A patient asked to be complimented because “I’m getting married.” When it was noted, “I didn’t even know there was anybody on the scene,” he replied, “There wasn’t—we’ve only known each other for three days.” We then realized he had probably recruited another ADHD subject: his wife-to-be.

## Mood Swings

Another area in which difficulties are often seen is mood. Our ADHD patients describe problems with mood that frequently go back as far as they can remember, often before adolescence. What they tell us is that their mood changes frequently. They describe being very reactive—that is, they tend to become depressed much more readily and to a greater degree than other people when they encounter frustration, loss, or defeat. They also tend to shift in the opposite direction. They will describe becoming excited and overstimulated when things go well, and they distinguish this feeling from genuine happiness. It seems to be the adult equivalent of overexcitement one sees in ADHD children in stimulating environments, such as the supermarket or the circus. As they get older, the excited periods seem to occur less often. Their moods come and go quickly. Their downs can be relieved

by a change in circumstances. Our patients have also told us that their moods frequently shift by themselves for no apparent reason. Their ups and downs last a few hours or at most a few days. Some ADHD patients have described their mood fluctuation as resembling being on a roller coaster or moving up and down like a yo-yo. When a depressed mood lasts for a longer period, it is because the patients have “dug themselves into holes” in life. The depression is described as being “down,” “bored,” or “discontented”—and frequently patients distinguish it from sadness.

The mood problems of ADHD are different from those experienced by patients with other mood disorders, such as biological depression and bipolar disorder (manic-depression). Yet a patient may have both ADHD and another biologically produced psychiatric disorder. To provide an accurate diagnosis, the evaluating physician must be sufficiently experienced in working with psychiatric disorders in adults. Such a physician must question the patient who has ADHD mood problems about other mood problems that may exist at the same time and may require different treatment.

Unlike the depression associated with ADHD, biological depression can last day in or day out; patients may be depressed for weeks, months, or years. Also, the experience of biological depression is different. Patients with this kind of depression report that they lose enthusiasm, motivation, and derive no pleasure from things they used to enjoy: eating, watching television, making love, listening to music, doing their hobbies. In addition, patients with biological depression have changes in their sleep patterns, appetite, and energy level; they may have feelings of worthlessness or guilt and thoughts of death or suicide.

Similarly, the “highs” that the ADHD adult experiences are different from the elevation of mood seen in bipolar disorder. The ADHD adult’s “ups” are described like the excitement we have seen in the ADHD child. The “ups” that the manic-depressive patient experiences, however, are more often euphoria; they are described as “flying . . . being on cloud nine.” During these euphoric periods the manic-depressive individual may experience *increased* self-esteem, a decrease in the need to sleep, a racing of thoughts, increased sexual activity, and serious and possibly self-destructive impulsive behavior.

### Disorganization and Inability to Complete Tasks

Our patients describe difficulty in organizing their lives in both minor and major ways. They are disorganized in solving problems and structuring their time. They tell us that at home and at work they frequently move from one task to another before completing the first one. Because of such planlessness and shifting around, they often report that it takes them much longer than it should to complete projects. The kind of shifting they describe is not what we all adopt to avoid boredom (I will read this book for half an hour, then balance the checkbook, and then prepare dinner). They recall having jumbled desks at school, and, if they are white-collar workers, they now have trouble setting priorities and finding what they need in their desks and files. One car salesman was not able to see why his wife was apoplectic about his failure to organize and why his boss was about to fire him because his sales records were incomplete for six months. One despairing husband of an ADHD woman described their refrigerator as having been taken over by a

rich collection of bacterial and fungal life, apparently unnoticed by his wife. His wife, the co-parent of three “hyperactive” children, was a witty, literate, absentminded professor, who had never mastered the art of household organization—or even sequentially buttoning her invariably stained white blouses. At home, ADHD adults may find it difficult to pay bills on time or to keep track of tools. If they continue with school, their efforts are hamstrung by the same disorganization they had as children.

One ADHD patient described, with horror and humor, her preparation for her eight-year-old son’s birthday party. In the middle of washing the breakfast dishes, she suddenly realized that she was giving a birthday party that afternoon. Before finishing the dishes she went out to get party favors, returned home, and then realized she had failed to buy the cake mix that was needed. Without prioritizing, she also remembered that a large load of laundry had to be done. She started to do that before completing the morning dishes or baking the birthday cake. By the time children began to arrive, she was completely frazzled. Another example is that of a man who started to panel his unfinished basement, but halfway through was struck with the thought that this was early summer and therefore a good time to stain the deck; before completing either of those tasks, he decided to grout the bathroom tiles, which had been in a poor state of repair for some time. A year later the basement was still uncompleted. A great deal of unorganized energy was inefficiently expended.

It is important, however, to distinguish this tendency to jump from one thing to another, which may be a facet of impulsivity, from a realistic response to the multiple pressures of a busy daily life. For example, a well-organized woman who has young children, is employed, and takes care

of her own home often cannot complete all she would like to do in any one day, but this has no relation to ADHD. In contrast, the lack of ability to plan activities adequately is the characteristic that may be a symptom of ADHD in an adult.

### Short and Hot Temper

Many ADHD children are described as having a low boiling point or a short fuse. As children, they may have had more than their share of temper tantrums and fights at school. The ADHD adults we have seen tend to have short-lived anger. They explode but do not nurse anger or brood. With age, some have learned how to count to ten, while others have learned that for them the only effective technique for avoiding an explosion is to leave the scene. Temper outbursts sometimes produce the most serious problems patients have to face. Bad temper may cost them jobs, destroy personal relationships (including marriage), distance them from their children, and end friendships.

Most ADHD patients report that, although their fuse is short, they calm down quickly—they do not nurse grudges. They often find it difficult to understand why, after their outburst, their spouse is then upset for hours or days. An extreme instance is that of an ADHD man who, in the midst of an argument with his wife, threw her *upstairs*; fortunately, she was not badly hurt. However, he was surprised that she did not feel romantically inclined that evening.

### Low Stress Tolerance

Finally, we also see in the adults with ADHD an overreactivity that is a hard attribute to measure but very important



to our patients. For some, events traumatic to others seem to bounce off them—they have a chronically thick skin. But perhaps more commonly, others become easily flustered, hassled, tense, or uptight. They perceive themselves as making mountains out of molehills and becoming readily stressed out, and they frequently find themselves psychologically incapacitated by minor difficulties. Stress is often blamed for both physical and psychological disorders. Stress reduction is often suggested to relieve physical symptoms or lessen psychological problems. If stress reduction techniques, like meditation and aerobic activity, are successful, all is well and good. However, we tend to forget that a stress response is normal and functions in our lives all the time—physiologically and psychologically we are designed to contend with stress. The ADHD person's response to stress, however, may be exaggerated and even inappropriate. Such a person could become equally upset over a facial pimple as over a broken leg. Overreacting to stress also increases a person's difficulties in solving problems, which makes a bad situation worse. It also produces a vicious circle: failure to solve problems increases tension, which in turn results in a decreased ability to solve problems, and patients may become overwhelmed and demoralized.

## OTHER PROBLEMS

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Having ADHD does not mean that the individual cannot have other biologically produced psychiatric disorders, such as biological depression, as discussed in the section on mood problems. Some ADHD patients have an accompanying

persistent anxiety different from the tension the ADHD patient may experience. With this sort of anxiety, individuals may feel keyed up, continually worrying and on edge. They may also experience the physical symptoms of anxiety such as an increase of sweating, fast heartbeat, cold and clammy hands, dry mouth, tingling feelings, upset stomach, hot or cold spells, frequent urination, and flushing. These are the symptoms generalized anxiety disorder. It responds to different interventions than ADHD and, if present, may require different drug therapy.

Many ADHD patients have found that large doses of caffeine reduce the symptoms of ADHD, but at the expense of producing symptoms like those found in persistent anxiety. Stimulant drugs in a proper dosage are not only better than caffeine, but they do not produce these unwanted physical symptoms.

Also, as we discussed in Chapter 4, it is very probable that ADHD predisposes adolescents to alcohol and drug abuse and adults to drug abuse and dependence. Other associations we and others have noticed clinically are heavy tobacco use, increased consumption of caffeinated drinks, and, as noted earlier, difficulties with academic and occupational functioning and impairment in relationships.

## **HEREDITY AND ADHD SYMPTOMS**

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In addition to such symptoms, certain patterns of behavior within the family may suggest the diagnosis of ADHD in an adult. If John and Mary Doe have an ADHD child

and Mary clearly does not have ADHD or a history of ADHD in her family, the odds increase that John is carrying the disorder and may also have some symptoms himself. Similarly, if an adult is having these problems and has a parent or brothers or sisters with similar problems, he should consider the possibility that he may have ADHD. In years past, neither one's siblings nor one's parents would be formally diagnosed by a psychiatrist or psychologist as having ADHD. But since the symptoms of ADHD are so obvious, it is possible to make an educated guess about the diagnosis. If a relative is continually restless, distracted, disorganized, hot tempered, impulsive, moody, and has abused substances, the chances that he has ADHD are fairly high.

## **PSYCHOLOGICAL PROBLEMS WITH ADHD**

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Our ADHD patients frequently have special psychological problems. Not surprisingly, these are often continuations of similar problems in childhood. Like the children, they tend to be underachievers at work and in the home. On the job they not only fail to obtain promotions but tend to be fired frequently because of their disorganization and hot temper. Their households are often chaotic.

Learning disorders also often persist, and ADHD adults have more than their share of difficulties in reading, spelling, and arithmetic. Confusion of right and left may also continue, along with reversal in numbers and letters. Obviously, problems of this kind can easily interfere with performance in a variety of different jobs.

## Relational and Childrearing Complications

The relationship between partners, one of whom has ADHD, is often strained and “dysfunctional,” and relationships involving an ADHD partner break up more often than those between persons without ADHD. Most of the origins of these difficulties can readily be seen in the patients’ ADHD traits. Their impulsivity, their temper, their failure to listen to their partner, and sometimes a lack of interpersonal sensitivity disturb their interpersonal relationships. These relationships are further stressed if the continuing obstinacy, bossiness, and stubbornness seen in many ADHD children are present. Communication is difficult. The ADHD person does not attend to the other’s conversation. He may tune out and drift off following his own train of thought. Not having listened, he may interrupt his spouse in response to his own thoughts. So the spouse has not been heard and is receiving a reply to a question not asked. Communication breaks down. Many ADHD couples have been treated for communication problems only to realize the communication problems were one symptom of the underlying ADHD problems.

Unpredictable moodiness is difficult to live with. It is tiring to always be walking on eggshells. It is likewise tiring to attempt to cheer up the unpredictably sad or try to get the overly enthusiastic partner to look at things realistically. The difficulty of living with a person with a hot temper is not hard to understand. However, the way the ADHD person handles his anger aggravates things. His anger is “a flash in the pan”; after expressing himself he may feel fine in five to ten minutes. This is unlike his wife, who may feel upset for the remainder of the day. Disorganization, not planning ahead, can drive the non-ADHD partner

wild. If he is the household administrator, she may be repeatedly anxious and upset when bill collectors phone them—because he has forgotten to pay the bills—when credit card charges top out, and when bank accounts have vanished with impulsive buying. The familial disorganization, economic pressures, and job instability can combine to make the partner anxious, depressed, angry, and insecure. Impulsivity in family decisions—taking or terminating a vacation on the spur of the moment, buying something they had agreed not to, commitments made and commitments broken on a moment's notice—can further aggravate the problems. And the problems may be hard to resolve because the ADHD person is both bossy and stubborn. The spouse cannot expect subtle and accurate perception by the ADHD patient. Like the children with ADHD, many adults with ADHD are socially imperceptive and self-centered. The self-centeredness does not mean they like themselves. It simply means they have not learned how to place themselves in other people's shoes. This lack of awareness by the ADHD patient further torments his spouse because he has a serious difficulty in understanding, empathizing, and recognizing the nature and intensity of his feelings.

The ADHD parent is likely to have difficulty with his children. His personality may make it very difficult for him to parent children who have no problems. Unfortunately, he is very likely to be the parent of children with problems, ADHD problems. His inconsistency, lack of follow-through, unpredictability, and temper may produce behavioral problems even in a child who has had no ADHD symptoms. Very frequently he does have an ADHD child, and the interaction

between his children and himself may repeat the relationship between his parents and himself as a child. This interaction can lead to a vicious circle, and the increased friction is likely to make all the predictable problems of childhood and adolescence worse. The normal adolescent often experiences depression, often rebels, and often experiments unwisely with sex and drugs. If that adolescent is reprimanded by an ADHD adult whose temper and unpredictability would place him at the low end of the parenting skills chart, severe problems are likely to arise out of ones that might have been temporary.

These patients tend to be dissatisfied with their lives in general. As a result of numerous unsatisfying experiences and defeats like ADHD children, they often have low self-esteem. As one patient who was a baseball fan observed, when your life is characterized by no hits, no runs, and plenty of errors, you do not have a terrific opinion of yourself.

Many of the symptoms we have just enumerated are seen in a variety of other psychiatric disorders. Even if a person is hyperactive and inattentive and has several of the other problems listed, he or she may have another psychiatric disorder. As we have noted, symptoms very similar to these are seen in adults who have bipolar disorder that is considered biological in origin. Obviously, anyone who is hyperactive and inattentive and has at least two of the five further problems we listed does indeed have problems that suggest the advisability of psychiatric evaluation. He or she may not have adult ADHD but would probably benefit from appropriate treatment of some kind.

## DIAGNOSIS OF ADULT ADHD

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These, then are the problems seen in ADHD adults. How do we diagnose a patient? First, we must determine what he was like in childhood. Every adult with ADHD had ADHD as a child. If the adult did not have the ADHD symptoms we have discussed, some other psychological problem may be present. One of the difficulties in diagnosing adults is that they often do not remember what they were like as children. In our research, we have dealt with this problem in four ways: we have instructed prospective patients to talk with their parents about their own problems during childhood, or we have asked to talk to the parents ourselves; we have requested the parents of prospective patients to fill out a questionnaire describing the psychological characteristics and problems that the patients had when they were children; and we have requested that the patients fill out a questionnaire in which they rate their own behavior in childhood. These questionnaires are reproduced in the Appendix.

For both the diagnosis and the evaluation of treatment, it is extremely important to have the help of the spouse, significant other, or parent of the adult with possible ADHD. This is because in one respect ADHD adults may be exactly like ADHD children: they do not realize their symptoms and they do not fully realize the changes medication may produce. The parents of ADHD children recognize that their ADHD children either do not perceive or will not acknowledge their problem. The children may agree that they are not doing well in school or that they are having difficulty with peers, siblings, or their parents, but they rarely acknowledge responsibility for these problems (or the role that their behavior plays in causing these problems). The same

imperceptiveness is often seen in ADHD adults. Partly, it may be due to psychological self-protection. Not only do we not like to disclose our problems to other people, but we also do not like to disclose them to ourselves. Failure to perceive one's problems is a psychological protection method used not only by individuals with psychiatric difficulties of various kinds but by most of the rest of the world as well.

Another reason the ADHD adult may be blind to his psychological imperfections is that he has lived his whole life with them. In contrast, individuals who develop psychiatric disorders recognize the changes immediately: they will tell us how and when they began to feel depressed or became anxious or developed panic. By comparison, the patient with ADHD has had the disorder his entire life. He is in some respects like someone with color blindness. The difference is that the person with color blindness learns about his disability as soon as he applies for a driver's license. He discovers that it is hard for him to distinguish the "red" and "green" seen by most people. The ADHD patient may never realize that he has a disorder and, indeed, until recently most ADHD patients did not know there was an adult condition called ADHD. When he does discover that he has ADHD and learns what its symptoms are, he may for the first time look back on his life and see how the ADHD symptoms have been involved with his performance in school, his career, and his relationships with the important people in his life. As patients develop an understanding of what has happened, they typically experience two feelings. One is the awareness that this disorder has had major effects on who they became, who they are, and what they have done. The second may be a feeling of relief in finally understanding why things in their life have gone the way they have. However, realization is a



two-edged sword, and they may experience regret that they have suffered all their lives from a condition that could have been treated and might have prevented their recurring and continuing difficulties.

Because of the difficulty of recognizing ADHD and distinguishing it from other disorders, it is important that someone with problems of this kind not attempt to diagnose himself. The previous descriptions are designed to serve as a list of warning symptoms that can alert the reader to the presence of problems that should be evaluated by a trained professional. A more complete discussion of the diagnostic tools used in the professional evaluation of patients suspected of having ADHD can be found in the Appendix.

## **DRUG TREATMENT OF THE ADHD ADULT**

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As with the ADHD child, stimulant medication is the most effective treatment for adults with ADHD. When medication works, and it does so in more than two-thirds of our patients, the effects are often dramatic. Many patients in our experimental programs had received treatment with both medication and psychotherapy before we had seen them. For example, as we have already noted, because the symptoms of adult ADHD are similar in some respects to certain types of depressions, many patients had been given the standard medications employed in depression. However, in general, they had not been treated with the type of medications we have found most

effective: stimulant drugs. Other drugs are also sometimes used, but the stimulants are the chief therapeutic agents and are the same ones found effective in children. For a general discussion, see Chapter 5. When effective, these drugs produce the following results.

## **Effectiveness**

### **INATTENTIVENESS AND DISTRACTIBILITY**

Both these characteristics are reduced by stimulant medications. Responding patients find that they can focus their attention better on academic and office work, reading for pleasure, television, and movies. In addition, they are able to attend more to what people are saying and are more sensitive to mood and attitude changes in others. Because bad listening skills are a frequent cause of marital and family discord, being able to pay better attention to what others say and to what others want and don't want clearly helps improve interpersonal relations. Increased attentiveness of this kind is not a paradoxical response. Anyone who takes stimulant medication in low doses may report that he concentrates better, and this may affect how he approaches necessary tasks. However, in contrast to the effect on the ADHD adult, it is not clear how useful this is for the normal person.

### **HYPERACTIVITY**

When present, fidgetiness, restlessness, and discomfort at being sedentary all disappear. Fingers and heels stop tapping, feet stop jiggling, and the treated patient will report

that he can sit through a TV program or movie with much greater ease. At the same time, overall physical and mental energy is not decreased.

### IMPULSIVITY

The decrease in impulsivity can be observed in a small way on a day-to-day basis and also over a longer period of time. Patients successfully treated with stimulants think before they talk. They also converse more effectively. The ADHD child and adult frequently interrupt—they cannot wait to get their word in and further disrupt conversations. Impulsivity toward children changes: parents scream and hit less. Because sudden surges of feeling are less likely, the chances of strained or broken relationships also diminish. Impulse buying, spending sprees, and perhaps certain compulsive-impulsive activities, such as gambling, decrease. To a greater extent, the patient considers the consequences of his behavior and acts accordingly.

### MOOD PROBLEMS

When effective, medication removes both the highs and the lows. The normal person who takes amphetamines is likely to become euphoric—that is, he may develop an inappropriate intense feeling of pleasure (as in some mental illnesses). Such euphoria can lead to possible misuse and addiction. The ADHD patient, however, does not become euphoric: he is less bored, less discontented, and happier with his lot; in addition, his overexcitement goes away. If he has a clinical depression as well, depressed symptoms will persist. Clinical depression is not improved by stimulants.

## ORGANIZATION

Patients improve their planning. Students, homemakers, and wage earners begin to devote more thought to the organization of their daily activities. One sees such concrete results as homework and papers completed on time, improved regulation of children's activities, better meal preparation, better care of house and yard, prompt bill payment, and improved meeting of job deadlines. As a result, relations improve with both spouses and employers.

## HOT TEMPER

Effective treatment lengthens the patient's fuse and raises his boiling point—successfully treated patients explode less frequently and more mildly. The effects on a household may be profound. Because ADHD children tend to have ADHD parents, the common family situation is a tense one—a very difficult child and a short-tempered parent. The best management of ADHD children requires planning and coolness, and the ADHD parent is poorly equipped to deal with an ADHD child. The temper control and organizational changes produced by stimulant medication can help greatly. Even though the hot temper of ADHD adults tends to be short-lived, no one enjoys having to live with a person who cannot control himself. Again, interpersonal relations improve.

## MANAGEMENT OF STRESS

Successfully treated ADHD adults report that their stress tolerance goes up—they are less easily “hassled” or discombobulated. The continuing stresses and strains of everyday life make them less anxious, less depressed, and less confused. This obviously plays a role in their demonstrable better organization. It is hard to follow a plan systematically

when your motivation and mood change from moment to moment.

## MEDICATION MANAGEMENT

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### Strategy of Medication Treatment

Stimulant treatment of adults is similar to that of children (see discussion in Chapter 5) and is accomplished predominantly with the longer acting drugs taken once or twice a day. The goal is typically to cover all the waking hours with medication. Amphetamines and methylphenidate are equally effective and, if one class doesn't work, the other class should be tried. Short acting forms are used but the long acting ones are preferred, particularly for the morning dose. The short acting forms require more careful timing, such as being taken on a schedule like 8:00 a.m., noon, and 4:00 p.m. Following such a routine can be difficult for a person who is often disorganized. With both short and long acting drug, there is considerable variation from person to person in both ideal dosage and schedule of taking the medication. Finally, the larger dose is usually given early and may be followed by a supplementary dose later in the day, depending on need.

When beginning a course of stimulants, it is necessary to find the lowest single dose that will produce maximum benefit during the following hours. Once that is determined, the best daily schedule of any additional doses during the day, if necessary, should be arrived at. Thus, for example, if a single dose of long acting medication taken first thing upon arising wears off early, perhaps a supplemental dose of

a short-acting form in the early afternoon will allow the rest of the day to run more smoothly. If college evening classes are being taken and require close concentration, perhaps a small dose of medication at 4:00 p.m. would be useful on school days. And so on.

At times, scheduling can be difficult. Of course, the medication does not work before the patient takes it in the morning, and it may wear off before he goes to sleep at night. If he is a very difficult person to live with (e.g., with an explosive temper), then even with drug treatment there are still likely to be several bad hours during the day. The patients themselves obviously do not like this roller-coaster effect.

## Side Effects

The most common side effects of the stimulant drugs are appetite loss and, if the medication is taken too late in the day, difficulty falling asleep. The appetite loss and the resulting weight loss are typically short-lived, and after several weeks the patient's appetite returns to normal. The sleep-preventing effects, however, do not disappear with time. A common problem is that the therapeutic effect of the medication wears off by the end of the day while the arousing effect remains, and so the individual may need an additional medication to help facilitate sleep.

Another (uncommon) side effect of stimulant drugs is an increase in pulse and blood pressure, and for this reason a physician will occasionally check blood pressure before treatment and at occasional intervals thereafter. A normal maximum systolic (the higher) blood pressure is 140; the maximum normal diastolic (the lower) blood pressure is 90. If stimulant medications are producing significant

improvement but are also producing an increase in blood pressure above normal limits, the use of antihypertensive (blood pressure-lowering) drugs should be considered. It is obviously preferable to give a patient only one medication and not a second to control the side effects of the first, but when treatment is producing life-changing effects, a patient usually wants to continue the medication.

As noted in the previous chapter, stimulants very infrequently can cause a sudden cardiac event in people with pre-existing structural abnormalities of the heart or a serious heart condition and so in most cases should be avoided.

## Special Problems

A major problem with the amphetamines and methylphenidate is that they can be abused by people without ADHD. The amphetamines—“speed”—and methylphenidate can produce powerful feelings of excitation and euphoria when taken in large doses, particularly when injected into a vein or smoked. Because serious drug abuse problems developed in the late 1960s, the federal government developed policies regulating the prescription of drugs that can be abused or produce addiction. Drugs that can be prescribed by physicians are placed in four categories (Schedules II–V), with the lowest (Schedule II) representing the most abusable medications. Amphetamines and methylphenidate have been placed in this lowest category, which includes morphine and Oxycontin. As mentioned earlier, this classification means that they can be prescribed for only one month at a time; that written prescriptions must be used rather than telephone orders; that no more than two prescriptions, depending on the state, can be dated for future

use, thus allowing a total of three months of medication between doctor visits; and that prescriptions must be filled within ten days of their having been written. In many states copies of the prescription must be filed in duplicate or triplicate.

This understandable regulation complicates the medical management of ADHD. The amphetamines have been used in the practice of medicine since the 1930s. Whether widely prescribed or not, many individuals took the same dose for long periods of time, claimed to benefit from them, and did not increase the dose taken. Although amphetamines were occasionally abused, the epidemic of amphetamine abuse did not begin until the drug era of the 1960s. What happened was that the amphetamine abuser found that to get high he had to escalate the dosage, smoke the drug, or inject it. Eventually, some amphetamine addicts took several hundred milligrams several times a day over a period of several days—doses ten times as great as those used therapeutically in the treatment of ADHD. Methylphenidate has been abused much less than the amphetamines, either because it is less desirable or less readily available. The important scientific question here is whether the ADHD adult who might benefit from the comparatively low doses of amphetamine and methylphenidate that are useful therapeutically might obtain the highs associated with abuse if he took much larger doses or used the drugs intravenously. That remains an open question, although abuse of stimulants by those suffering from ADHD and using them in appropriate therapeutic doses appears very unlikely. Higher doses seem to just produce irritability.

Because amphetamines and methylphenidate are known as highly abusable drugs, psychiatrists and other physicians



in the past have been reluctant to use them in adults, particularly ADHD patients with problems of alcohol and substance abuse. That is one of the reasons our ADHD adults were treated with agents other than stimulants before they were referred to us. Thus, ironically, ADHD adults have been the least likely to be treated with the drugs that in our experience have been most effective: the stimulant drugs.

## OTHER DRUGS

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As described in Chapter 5, very few other medications have been considered in the treatment of ADHD and those that have found some use appear to be considerably less effective than the stimulants. On the other hand, they are not likely to be abused and so multiple refills can be written. Also, they can be used in the very few cases when stimulants are avoided such as in the elderly with a recent heart attack.

The two medications most likely to be used as alternatives to the stimulants are Strattera (atomoxetine) and Wellbutrin (bupropion). Strattera may produce modest improvement in some cases and is usually taken in the morning in a dose of 80 to 100 milligrams. It has several significant side effects, including sedation, fatigue, and decreased appetite. Wellbutrin (bupropion) is a stimulating antidepressant that was developed in the 1980s as a drug to treat ADHD in children and is now marketed for the treatment of depression. As a treatment for ADHD in adults, it appears to work in a much smaller percentage of patients than do the stimulants. It does not seem to control as many ADHD symptoms as the stimulants, and it has less of an effect on improving concentration problems and organization. It is not a long-acting drug but

has become available in longer acting forms: Wellbutrin SR taken twice daily and Wellbutrin XL that can be taken once a day. The principal side effects are irritability and insomnia. It certainly is not recommended as a stand-alone treatment for ADHD unless there are no alternatives.

Clonidine and Intuniv that see limited use in children are of little value in adults.

## JUDGING RESPONSE TO MEDICATION

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Like children with ADHD, adults with ADHD often do not recognize their problems initially and then may fail to notice the amount of improvement after treatment. As convincingly shown in the following anecdotes, the judgment of another person is highly desirable in measuring improvement.

Some months after our completion of a medication research study, one of us was stopped in the hall of the medical center by an unfamiliar nurse. She introduced herself and said, "I'd like to thank you very much." The researcher replied: "You're welcome. What did I do?" It turned out that her husband had participated in a drug study, and that the medication had had a dramatically beneficial effect on their marriage. It had been deteriorating over several years, and despite counseling, the couple had been rapidly approaching divorce. The nurse stated that the stimulant medication had produced a pronounced change in her husband's behavior, and with its help they had been able to iron out their chronic problems. Although we generally query spouses or others in our drug studies, that had not been possible in this instance because the nurse was away caring for her sick mother during the time of the drug trial. The

treating physician had rated the patient as slightly improved—by the patient’s judgment. By the wife’s judgment, however, a life-saving improvement took place.

The same phenomenon occurred in the treatment of another patient in a research study. Each week, the patient’s core symptoms of ADHD were reviewed, and he was asked whether and how much he had improved, worsened, or if he had stayed the same. One week, when both the patient and his wife had come to the clinic, he answered the questions about restlessness, inattentiveness, organization, and temper by saying that each symptom was slightly improved. His overall judgment was also that he was “slightly improved.” When he said this, his wife looked at him in surprise, placed her hand on his knee, looked him in the eye, and then the researcher in the eye, and said, “Slightly improved! It’s like being married to a different man!”

In both cases, the patient’s inaccurate self-observation was the adult equivalent of the ADHD child’s lack of awareness of his problems and of the change in behavior in response to medication.

## WHEN AND HOW LONG TO TREAT WITH MEDICATION

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To the best of our current knowledge, the risks incurred by long-term treatment with stimulant medication are very low. So far as unusual reactions are concerned, the amphetamines and methylphenidate appear to be safer than aspirin or penicillin. Still, the medications do increase heart rate, and in some individuals they raise blood pressure slightly. There are no other known long-term effects. And to balance this

potential side effect, it is important to recognize the health-promoting effects that stimulant drugs have in some ADHD people. Some patients find that stimulants reduce their need for nicotine, making it easier for them to give up smoking. Some adults with ADHD have given up excessive drinking. Others have, with the help of medication, organized their lives and enjoyed a less stressful existence. Moreover, if blood pressure is raised to an *excessive level* yet stimulant treatment is clearly beneficial, the physician can add another medication to lower blood pressure.

From a practical standpoint, clinicians who treat patients with ADHD sometimes find that the patients tend to request treatment when their lives have become difficult, take medicine and with its help straighten out their lives, and then often discontinue medication until the next emergency arises. This is usually not a good policy for an ADHD adult to follow because he is frequently unaware of the effects of his disorder on others; when he stops medication on his own, he may be destroying personal relationships, producing family turmoil, and impairing job success without awareness. The basic policy for the ADHD patient should be to continue medication unless there are compelling reasons to stop. If a trial period without medication seems warranted, he should then carefully assess the effect of going medication-free. To make this assessment, he generally needs the help of a partner.

## PSYCHOLOGICAL THERAPIES FOR THE ADHD ADULT

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Most people with ADHD do not need psychotherapy; however, all benefit from the specific help offered by a clinician

knowledgeable about the symptoms and problems experienced by those with ADHD. As has been made clear, the ADHD adult has usually been chronically unsuccessful. He quite likely had a difficult, even unhappy childhood and adolescence. He has low self-esteem, a history of academic and vocational underachievement, and troubled personal relationships. For some ADHD patients, psychological treatment that focuses on the consequences of inattention, hyperactivity, and impulsivity might be of great benefit. A clinician familiar with treating ADHD can explain, not only to the patient but also to his partner and family members, what has happened to the patient: why relationships with parents, siblings, and teachers were difficult in the past; why relationships with partner, children, and coworkers may be difficult now; why the patient feels he has not been successful in any endeavor ever attempted; and what behaviors bring on unwanted consequences. If he is able to see this as a reflection of his ADHD, a chronic illness that is biological in origin and that can be treated and not a personal character flaw, he can experience great feelings of relief. Thus, an essential component in the psychological treatment of the ADHD adult is education.

How education of the ADHD adult is best accomplished and what kinds of psychological therapy are best are not certain. Couple therapy from a clinician familiar with ADHD may be useful, but usually only if medication has greatly reduced the symptoms.

## **Treatment of Couples**

Most of our patients have had spouses or other partners, so the approach we use is derived from standard techniques of

couple therapy. Each partner examines the behavior of the other, focusing especially on three aspects of the relationship: communication, expectations, and stylized patterns of behavior.

Frequently, marital partners have never learned to talk to each other—to say what they think, feel, and want. They hope that somehow their mates can read their minds. When that does not happen, they feel frustrated and become angry. Consequently, persuading marriage partners to say what is on their minds has been found therapeutically useful. Often just this step can result in some modification of behavior. Partners can also improve communication by making sure that, when they do express themselves, the other person has understood the message correctly—that he or she has the facts straight and understands the intention.

With better communication, the partners are less likely to act in terms of unrealistic expectations derived from previous experiences in their own families or even from an overromantic popular culture. Each member of a couple has to learn what the partner's actual desires and capabilities are, and sometimes this may mean modification of original rosy dreams about gourmet meals every day, athletic sexual performance on demand, and immaculate, well-behaved children.

In approaching established behavior patterns that may produce marital conflict, therapists help the partners explore such questions as who sets the household rules, whose friends are seen, who does what chores, who spends more time with the children, who decides how money is spent, and who initiates sexual activity. In examining important elements of their life together, the partners begin to recognize particular behaviors (from squeezing the toothpaste tube in the middle

to overdrawing bank accounts) that have become sources of trouble. When the various irritants are brought into the open, the couple becomes aware of the need to compromise. Sometimes the therapist can help them by suggesting specific behavioral techniques, such as “bargaining contracts” or a “reward system,” which can achieve a better division of household responsibilities.

When one member in a couple has ADHD, the kinds of problems that usually emerge in couple therapy are likely to be greater because of such factors as not listening, impulsivity, and hot temper. The therapist’s focus on better communication not only helps the couple to deal with the problems of living together but is an important part of the process whereby the ADHD adult learns to identify individual difficulties. It is essential that both individuals (and the therapist) have a familiarity with the typical problems that occur in ADHD as well.

## Individual Counseling

There is no evidence that psychotherapy of any type reverses or diminishes the core symptoms of ADHD, although it may help correct the life problems that arise from poorly treated or untreated ADHD. Several specific types of psychotherapy have been tried to treat ADHD, most with limited success. Efforts to decrease inattention, hyperactivity, and impulsivity have generally failed, although attempts to decrease distractions in a person’s environment or the negative effects of his hyperactivity or impulsiveness have been of modest help. Unfortunately, evidence that these benefits persist over time is lacking.

It must be remembered that in addition to special difficulties associated with their disorder, ADHD adults may have the kinds of other problems that anyone is likely to have. When ADHD symptoms are controlled, some patients find themselves faced with problems that had remained hidden and that they now must tackle. However, a majority are pleased with the progress they have made and are content to face life's challenges with their newfound awareness of their specific problems and with their newfound help from medication.

## **TREATMENT OF Milder ADHD DISORDERS AND OF ADHD IN COMBINATION WITH OTHER DIAGNOSES**

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The Utah Criteria—the ones provided in this chapter—were constructed to be very specific because the research we were doing was controversial. We wanted to make our requirements so tight that individuals meeting them were most likely to have ADHD. We knew that by doing this we would fail to study individuals who did not meet the full diagnostic rules for the diagnosis of ADHD. When one talks to the parents, brothers, and sisters of ADHD individuals, one is impressed with the apparently increased number of ADHD symptoms these individuals have that are not sufficient to label them with full-fledged ADHD. This is not unexpected because in many psychiatric disorders one finds varying degrees of severity of the same illness. Talking to the relatives of ADHD adults, we find people with varying combinations—for example, of chronic inattentiveness,



unstable mood, disorganization, or explosive temper. No one has investigated whether these mild, possible forms of ADHD would respond to the same treatment that is effective in treating full-fledged ADHD. Physicians have been reluctant to treat these minor forms for several reasons. For example, psychiatrists are reluctant to use potentially abusable drugs in patients who are less certain to have ADHD and in whom abuse could presumably be more likely to occur. Also, psychiatrists have had to use discretion about treating minor symptoms of ADHD—for example, chronic inattentiveness—with stimulant medication because those symptoms may be manifestations of another psychiatric disorder. Many people with anxiety, depression, and other clinical psychiatric disorders have serious problems with attention, and treating them with stimulants would be incorrect treatment.

Although the strict initial guidelines of our research studies mandated that we exclude patients with clinical depression, in our clinical practices we have treated patients who reported symptoms of both ADHD and major depression. We found that these patients generally benefited from treatment with a stimulant drug and an antidepressant. An antidepressant by itself may control the symptoms of depression but not affect the ADHD symptoms. Similarly, a stimulant drug may benefit the ADHD symptoms but not the depression. Appropriate treatment requires the use of both types of medication. We have had several patients who appeared to develop such depression in the course of extended treatment for their ADHD. One was a forty-year-old woman with prominent ADHD symptoms as well as a disturbed sleep pattern of multiple anxious awakenings throughout the night. She did

not have symptoms of clinical depression: she was interested in things, experienced no guilt, and felt that life was worth living. On Concerta both her ADHD symptoms and her abnormal sleep problem resolved. A year and a half later, while doing well on Concerta, she began to develop symptoms of biological depression with loss of interest and pleasure in most all her activities. Concerta was continued, but Prozac, an antidepressant, was administered. Within eight weeks her interest in life resumed. She remained on the Concerta, and the antidepressant was diminished after nine months with no reappearance of her symptoms. She is being followed carefully, because once an individual has had one clinical depression, he or she is more likely to have a recurrence.

We will discuss briefly another case to illustrate the presence of ADHD with another diagnosis. A thirty-five-year-old woman came to the clinic after having been in and out of multiple psychotherapies for twelve years and psychiatric treatment for three years. Her initial problem had been recurring depressions that appeared to have developed in reaction to continuing difficulties in her life. The psychotherapist had viewed the depression as a response to a bad marriage and two difficult children. However, her depression continued after she divorced and remarried, this time happily. After twelve years of unsuccessful treatment, her therapist referred her to a psychiatrist interested in biological depression. She was placed on antidepressants, and most of her depressive symptoms resolved. When questioned about her childhood, she mentioned that in addition to family problems she had been a tomboy, not much of a student, and “tough,” stubborn, and bossy. Regarding her temperament

at present, the physician discovered that she could not concentrate on reading or organize the running of the household; she was very distractible, a never-ceasing bundle of energy, short-tempered, and as in childhood, stubborn and bossy. These were all temperamental features of her personality that may have contributed to the previous difficulties in her first marriage and developing problems in her second one. She was placed on concerta and obtained considerable benefit, becoming more attentive, less driven, cooler tempered, better organized, less stubborn, and less bossy. Her second marriage improved considerably.

These last two cases illustrate that other psychiatric conditions can occur together with ADHD. ADHD does not increase the likelihood of a person developing them, but it does not prevent one from developing them either. Their presence will not likely be recognized by the nonpsychiatric physician—with the result that their diagnosis is likely to be missed and the disorders therefore untreated.

## ILLUSTRATIVE CASE HISTORIES: ADHD ADULTS

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To give the reader a “feel” for the disordered adults, we will present two sets of case histories. The first group consists of brief descriptions of the patients and their symptoms, the common themes in their childhoods, and the treatment deemed appropriate for each. The second group includes autobiographical accounts that dramatically demonstrate the powerful life-changing effects that treatment of ADHD in adults can have.

Patient Name: Alan

Diagnosis: ADHD

*Alan was a forty-seven-year-old man who came to a psychiatrist with complaints of increasing confusion, disorganization, and depression. He dated the onset of his problems to change that had taken place in the real estate office in which he worked. He was second in command to his father, who had recently suffered a stroke and was forced to retire. This was followed shortly by the retirement of the office manager, a woman who had run the office for thirty-five years with excessive control and attention to detail. Work had ceased going smoothly. In addition, the patient was no longer able to organize his life at home, and the household was becoming increasingly disrupted. His wife, whom he described as a “marine sergeant,” tried to fill all the gaps but was becoming exhausted. He had received multiple antidepressants and had sustained no substantial benefit.*

Patient Name: Barbara

Diagnosis: ADHD; history of conduct disorder traits

*Barbara was a thirty-two-year-old mother of two ADHD boys who were being treated in a clinic. They had received medication that had improved their behavior considerably at school, but she still had great difficulty managing them at home. She was unable to provide any organization, schedules, or definite expectations.*

*She overreacted to trivial provocations; lost her temper; and then set punishments that she never carried out (e.g., she would threaten to “ground” the boys for two weeks, and one hour later forget that she had done so). She was seeing a psychologist, who was attempting to teach her the principles of behavior management but without success. Her own life had been chronically disorganized. She had three children by three men, the first at age sixteen, and had never functioned successfully. She did poorly in high school and dropped out, occupied a number of brief menial jobs, and was receiving welfare. Her inability to organize her life, run her household, or take care of her children had required multiple therapies, by a variety of therapists, over many years.*

Patient Name: Carol

Diagnosis: ADHD, inattentive type, mild; learning disorders

*Carol was a forty-two-year-old woman who had returned to work after her children left home. She obtained a job as a clerk in an office and functioned very well personally and very poorly occupationally. She had difficulty with word processing, wrote disorganized messages, and manifested spelling problems. She had difficulty with alphabetization and filing. She confused appointments and forgot and mixed message. Nonetheless, she was warm, friendly, well intentioned, and well liked.*

Patient Name: David

Diagnosis: ADHD hyperactive-impulsive type

*David was a thirty-five-year-old man who appeared with his wife for treatment of chronic marital problems that had stemmed from David's personality. He was described by his wife as "loving and caring" but "impossible" to live with. His was responsible for the administrative running of the household but did an abysmal job. Bills were not paid on time and repairs were not made. Tax records were always misplaced and tax-payment time was a disaster. He would respond to the difficulties he had produced with brief outbursts of anger, during which he would explode verbally, but not physically, and after which he would quickly calm down. His good mood was restored in a matter of minutes, but his wife continued to be upset for the rest of the day. She found him difficult to be around because he was so restless. He did not sit still at the dinner table or in front of the TV and perennially tapped his foot and fingers. Impulsivity was also a problem: he spoke without thinking, hurting her feelings, upsetting the children, and antagonizing friends. He also had recurrent impulse buying that, although not for expensive items, added to the family debt. The couple received counseling and was given communication therapy without much benefit.*

## COMMON THEMES IN THE LIVES OF ADHD ADULTS

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The childhoods of ADHD adults carry several common themes.

Alan had been a dreamy, distractible, absentminded, good-natured boy who never completed anything at home or at school. He would begin to clean his room and stop half-way. Homework assignments were never finished. Teachers complained of his dreaminess and absentmindedness. When he was interested in a subject—as he became in some fantasy games—he studied it intensely and often became very proficient. He was an underachiever at high school and college and graduated from college with a C average.

Barbara had been a typical ADHD child with attentiveness, hyperactivity, and impulsivity. She had a low normal intelligence. Although obedient until puberty, she then began to tear loose, staying away from home at night, going out with older men, and experimenting with alcohol and drugs. She left home at the age of sixteen to live with a nineteen-year-old ne'er-do-well who was alcoholic, infrequently employed, and who beat her. She stayed with him for two years and then left to raise their first child. This unfortunate choice of partners was repeated on two more occasions with similar results. The symptoms she showed in the psychologist's office were all continuations of those that she had had in childhood. She was noticeably and uninterruptedly restless, inattentive and distractible, impulsive in speech and behavior, disorganized, overreactive, and given to temper outbursts.

Carol had been a pleasant underachieving child. She was somewhat inattentive and distractible, but obedient, well behaved, and "sweet." She had marked difficulty in learning to read and spell and had been placed in a resource room during elementary school. She never mastered reading or spelling and dropped out of high school in the tenth grade.

David had been a rambunctious toddler and adolescent. Although somewhat inattentive, his major problems were impulsivity and hyperactivity. His mood was unstable, he fought frequently, and was often involved in difficulty with teachers at school and with the principal. Nonetheless, he was well liked by his peers because he was gregarious and a good athlete. During late adolescence he went through a period of alcohol and marijuana abuse and dropped out of high school. He stopped his substance abuse on his own and obtained a high school equivalency at the age of twenty-one.

## **TREATMENT OF CASE SUBJECTS**

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Alan had symptoms of both ADHD and biological depression. He was begun on a trial of Adderall and had marked change in a variety of behaviors. His concentration improved substantially, he became less distractible and better organized, and, with the help of a new and effective secretary, was able to organize his work at the office. His functioning at home improved to a degree previously never shown. He started to organize and carry out his household duties appropriately, and he became less dependent on his wife. Despite this improvement, he continued to have symptoms of depression with a loss of interest and pleasure. He was again given a trial of an antidepressant, and after a period of several weeks his depressive symptoms diminished substantially. He was able to function at home and at the office, his self-esteem greatly increased, and for the first time in his life he became effective with his performance at work and home. The antidepressant was tapered and discontinued after a



period of six months with no recurrence of the depression. The Adderall was maintained, and the ADHD symptoms remained under control.

Barbara's clear-cut and persistent ADHD symptoms had not responded to counseling, and when seen by the psychiatrist, she was given a trial of Concerta. This produced benefit in a number of areas. Her concentration and distractibility decreased, and her explosive temper nearly disappeared. Because she was now attentive, she was able, with the aid of a therapist, to begin to plan and organize her life. Behavioral regimens were established for the children, and she was able to plan and execute them successfully. She continued to need and receive supportive therapy as well as medication. Her improved functioning led to plans for her to obtain a high school equivalency with the eventual hope of obtaining specific job training.

Carol had been slightly ADHD as a child, inattentive type, with clear-cut learning disorders. She had never mastered the skills necessary for clerical work. A trial of medication improved her attention slightly but produced no improvement in her reading, spelling, and clerical ability. Because of her winning personality, the firm decided to keep her and positioned her as the receptionist. She functioned extremely well in this role. She continued to be well liked by her employer and by customers, and she performed satisfactorily.

David had been an ADHD child, primarily of the hyperactive and impulsive type. He was given a trial of Concerta and had a dramatic response. The least important but most immediate effect was that his hyperactivity disappeared. He stopped tapping his foot all day long. His temper cooled considerably. Whatever happened physiologically, he described

himself as being able to “count to ten” and rarely exploded. He became more patient and was able to plan and organize activities around the home. His impulsivity also decreased. He reported that he found himself listening to what other people were saying, and rather than “just put in my two cents,” learning to contain himself and follow the conversation. His impulsive buying decreased substantially and over time virtually disappeared.

The following case histories illustrate the kinds of changes that can occur when medication reduces symptoms and adult ADHD patients have the opportunities to experience psychological growth. When medicine works, it does so quickly. Symptoms such as hyperactivity and concentration problems may be alleviated almost immediately. Psychological growth, however, occurs much more slowly. Patients with ADHD have a lifelong history of psychological maladjustment. An immediate improvement in their concentration does not immediately better their interpersonal relationships, their vocational activities, or their approach to life. But the medication, when effective, allows time for psychological change to occur and, though the rate of change may be gradual, the cumulative effect can be profound.

These accounts by patients and their spouses are taken from the book *Attention-Deficit Hyperactivity Disorder in Adults* by Paul H. Wender (Oxford University Press, New York, 1995). They are unusual because the patients were asked to describe in their own words what it has felt like to suffer from ADHD and how they have changed with treatment. Each patient had participated in a careful research study of methylphenidate in the form of Ritalin before the long-acting forms had become readily available.

The accounts include the comments by Dr. Wender, the first author of this book.

## **THE EXPERIENCE OF ADHD ADULT PATIENTS ON STIMULANTS**

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The following accounts by four patients (Daniel, Caroline, Sonia, and George) and two spouses (writing about George and Bruce) communicate a sense of the relief some adult ADHD patients and their families experience when treatment with stimulants begins. The history by Sonia conveys an idea of changes experienced on both amphetamine and methylphenidate.

### **DANIEL: COMMENTS BY DR. WENDER**

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Daniel, a thirty-one-year-old married father of two, referred himself to the clinic with complaints that “More and more I am aware that I am different from other people—I can’t get things done—I have no stick-to-itiveness.” He stated that he rarely lasted in any job for more than six months. He was not fired—he got bored and would leave. His easy susceptibility to boredom penalized him at college, which he had begun on several occasions, never lasting more than a few months.

He states that he had had chronic difficulties in associating with other people. He has never had a close friend or a confidant. In company he has always found himself doing things inappropriately and has been embarrassed by his own behavior. When invited by other people, he feels they don’t

like him. He also feels that he cannot participate in the conversational trivia that often happens in group meetings.

Boredom has been a chronic problem. He will watch a movie and read at the same time. While watching television, he continually flips the channels. He has had chronic difficulty with anger. As a child, he stole powder from his father's shotgun shells and used it to fire cannons. He chased his sisters with knives until the age of fifteen or sixteen: "I thrived on making them cry." The other things he would do to upset them was to put his fingers in their food and twist their arms. He learned to turn some anger inward as a child and prevented his expressing it more fully by resorting to imaginative, gory, science-fiction-like inventions. As an adult, when he was angry, he had put his fist through the wall. His marriage had lasted because his wife was very calm and obliging.

His course in the study had been as follows: in the placebo-controlled trial he showed a moderate to marked response to Ritalin and has continued in the study for the past eight years on a dose of 50 milligrams a day, divided into several doses. On medication his temper has been controlled, he is not bored, he has shown little instability of mood, and he has become extremely well organized. As a consequence, his relationship with his wife improved substantially, and he was able to obtain the position of a religious teacher and has been able to function very well in that role. His score on the scale of psychological and occupational function improved from "moderate to serious symptoms (anxiety and depression) or moderate to severe impairment in social or occupational function" to "if symptoms are present, they are short-lived and expectable responses to psychological or social pressures with no more than slight

impairment in social or occupational functioning,” and his score on the scale of social adjustment has improved from “moderate maladjustment” to “excellent adjustment.”

## STATEMENT BY DANIEL

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It is difficult to know where to begin. My goal is to explain what it is like to have attention-deficit hyperactivity disorder as an adult. But I believe it is impossible for “normal” people to understand the frustration, anger, confusion, and eventual hopelessness that come with failure at every turn. I will do my best, but please understand, I am attempting to tell apples and oranges what it feels like to be a banana.

I am an adult male of thirty-one years. About eight years ago, I met Dr. Paul H. Wender for the first time. The meeting was painful. Whether he intended it or not, I don’t know, but his questions became increasingly irritating. Not for content, but because of the seemingly unimportant gibberish. I have come to realize that those questions were important, but the experience illustrates the frustration that comes with the inability to focus or understand. This was a very common experience throughout my life.

Inevitably, this frustration leads to fits of acting out and even violence. While these results seem related, the causes are different. The acting out comes from a need to do something. The something could be anything that crossed my mind. On one occasion in high school my science teacher had assigned us several pages of textbook busy-work. Everyone was working so hard and the class was so silent, but the work was so senseless that I stood on my desk, screamed at the top of my lungs and ran across the tops of the desks, and then

returned to my desk and continued the assignment. The teacher was either too shocked, too amused (along with the class), or too stupid to do anything about it. I, on the other hand, was mortified at my actions. When I said there was a “need to do something,” that need is genuine—so overpowering that it forced me to do things I normally would not. There is no rhyme or reason; it simply had to be done.

The other result of frustration—violence—was actually the release of anger that I felt at all times. Always just below the surface, I had a seething volcano of anger and violence ready to explode. I played football in Little League and again in high school, and I enjoyed hitting and hurting others. There was a tremendous sense of relief to hit and to hurt. When someone would limp off or have to be carried off the field, the feeling was near ecstasy. Even now as I write this I can remember those feelings. I don’t understand them, but I remember them.

The anger also caused me to constantly look for a release. I wanted someone to provoke me so I could hurt them. This anger could not be eaten up by physical exercise or other releases. It typically was just there, and I was forced to deal with it. My parents, who were very strict, forced me to learn control. Which I did, but the anger was always there, waiting.

Another effect that I can now recognize was an inability to read and study. On countless occasions I would attempt to study for school and fail miserably. After only a few minutes I would become so irritated that I would throw the book across the room and watch television instead. The biggest problem was my inability to stay focused. I could read pages in a text while my mind was elsewhere, settling an old argument I had had with a friend two years ago, or beaming

aboard the Star Ship Enterprise. I could read the words; I just couldn't attach any meaning.

Much of this led to the last effect that I am aware of and that is guilt. I have felt guilt for everything I have ever done and many things I didn't do. Please do not suppose me guilty of any great wrongdoing, but things like hitting one of my sisters, lying to my mom, saying the wrong thing at a party, or simply being the life of the party. Afterwards, even after admitting my lies or apologizing, I was still racked with guilt. Similarly, in situations when I should have done something and didn't, the guilt was also very real. Like remembering when I meant to tell a foul-mouthed man on the bus to shut his yap but didn't, can be a particular source of pain. My mind would return me to the instance time and time again. I would imagine that I acted properly each time, but it never helped. Some of these moments are decades old. There was an incident where I embarrassed myself on stage when I was in elementary school in front of the entire student body that had bothered me until I met Dr. Wender.

Hopefully, I have given some kind of an understanding of my experience. Although most illustrations were from my younger years, rest assured they continued well into adulthood. In fact, things had gotten so bad that I was becoming a recluse and refused to mingle with other people. It was then I realized I needed help and was eventually introduced to Dr. Wender. As I said, his first interview was almost more than I could stand, but after being placed on 10 milligrams of Ritalin five times daily, I have sincerely enjoyed our meetings and even looked forward to them. My wife told Dr. Wender that the change had been dramatic. I was a little slower to recognize the change. Frustration was only a memory, the "need" as well as the seething anger were gone, and for the

first time I opened a college textbook and read it from cover to cover with good understanding. Not just reading it, mind you, but outlining and taking notes. The experienced frightened me because I was actually understanding nearly all of it. That gave me the courage to return to college full-time and finish my degree, which I have done. I can think clearly, I can discuss without getting frustrated, I can argue without losing control, and most wonderful of all, I can read! I have discovered the wonderful world of literature. But that's not all; for the first time since my first job when I was fourteen I have kept a job longer than six months and actually have a professional career.

There is one more thing, for lack of a better word, that Ritalin has changed. There were times that my mind would seem to engage without my knowledge or consent. And I would be stranded on a runaway locomotive that would crash through any barrier I would erect in attempts to gain control. This would happen most often as I lay in bed waiting for sleep. The mental locomotive might take a trip that lasted all night. Sometimes it might engage in the middle of the night and wake me from a dead sleep. Ritalin stopped this. On more than one occasion I have asked Dr. Wender to convince me that Ritalin is a stimulant because on those nights of the thought express I take Ritalin, and it's like the calm after an ocean storm. The waves are slowly subdued until the surface is like shimmering glass and sleep comes so naturally that I enter REM easily. Sometimes I will wake up exactly two and a half hours after taking the first dose and need to take a second. Again the storm passes and sleep returns. On rare occasions I might awaken having not taken any Ritalin before bed, but a dose then has the same calming effects.



There is no way to explain what Dr. Wender and his treatment of me with Ritalin means to me. Ritalin is a true miracle drug. It saved my education, my marriage, and quite possibly my life. Ritalin has given me what I thought was impossible: control of my life. And although I'm still a banana, at least I'm a little more spherical and can roll with the punches.

### **CAROLINE: COMMENT BY DR. WENDER**

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Caroline, a thirty-two-year-old mother of two boys, contacted our clinic after reading an article given to her by one of her son's teachers. She had enrolled in a community college computer program, but homework was a terrible problem because she could not stick with it. Caroline experienced chronic distractibility, impulsivity, an explosive temper, and an inability to sustain long-term relationships. During the entire initial evaluation she was swinging on her chair.

Caroline met the criteria for a diagnosis of attention-deficit hyperactivity disorder and was entered into a trial of Ritalin and placebo. She showed a moderate to marked improvement on Ritalin and was then entered into the long-term phase of the study. After one year in the study she reported that she had quit smoking and drinking on her own. She has continued for nine years on a dose of 50 milligrams of Ritalin per day (10 milligrams every two and a half hours five times per day). Her score on the scale of overall psychological occupational functioning improved from moderate to slight symptoms and moderate to slight impairment in social and occupational functioning. Her score on

the scale of social adjustment improved from “moderate to severe maladjustment” to “excellent adjustment.”

## STATEMENT BY CAROLINE

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I’ve been asked to write this letter to describe how Ritalin has helped and changed my life. Before I can describe the changes, I feel it necessary to give a little background on myself so that you can better understand how I have benefited from the use of Ritalin over the years.

I grew up in a very dysfunctional home as a child. Although my family, specifically my parents, tried to keep up the appearance of normality, it was anything but a normal childhood. My father was an alcoholic. Although I can never remember him staggering drunk, he was always drinking. As a loving parent, he was totally lacking. He never really involved himself in raising us, except when he had to, as in physically disciplining us.

My mother, on the other hand, did everything that was expected of a middle-class housewife—the PTA, Girl Scout Leader, Cub Scout Leader, etc. . . . although her heart wasn’t really in it. She admitted to me several years ago that she hated it; she only did it because it was expected of her to keep up appearances. She portrayed the perfect loving mother to the world, while at home she showed us very little affection or love. I’m not even sure if my mother really loved any of her children, or even wanted us, and I think that even as a child I sensed this.

While I was growing up, my mother described me as her free spirit. I was always happy and on the go. Always getting into trouble; I did things on impulse without

regard to the consequences of my actions. Most of the time I believed I wouldn't get caught, and if caught, I would lie about it. I thought if I kept up the lie, they would eventually have to believe me. I was like a whirling dervish, always on the go, but couldn't sit still for any length of time, and if I had to stay in one place, I always had a body part moving, such as shaking my leg or fiddling with my hair.

As a child, I was very emotional, to the point of being overdramatic. I would laugh too loud, cry constantly over little things, stupid things, my voice could carry over any conversation, and I was extremely aggressive with a very violent temper. My emotions ruled my life, making it difficult to fit in very well with my peers. I constantly would say inappropriate things to try to fit in, but I was basically a loner.

I didn't really do well in school for the first three years, although I was above-average intelligence and could read before I entered kindergarten. I nearly failed in second grade. I can remember being frustrated with how slow the other children were. I would finish the lesson the teacher and class were doing and go on to the next lesson. Then when called on by the teacher to read or do a problem, I wouldn't be able to because I didn't know where we were. This caused the teacher to become very frustrated with me because my test scores were always very high, but I couldn't keep my attention on what the class was doing. In the fourth grade I was lucky enough to get a teacher who recognized my problems and my potential and put me into an individual study program. At this time I started to get straight As. By the time I was in sixth grade I was doing eighth-grade-level work. I managed to keep my grades up and graduate, although if

I had been an average student I probably would never have made it out of high school.

These problems followed me into my teen and adult years. Although I did extremely well in school, I still had trouble socializing with my peers. I was an overactive, talkative teenager; I was impulsive and I blurted out inappropriate things at the wrong time. Basically, I irritated other people. When I was fourteen years old, I started to drink alcohol, and when I was fifteen, I sought out the local drugs on the street. I started smoking marijuana first, then progressed by the time I was seventeen to painkillers (Percodan, Demerol), LSD, and cocaine. It wasn't until I started using drugs and alcohol that I was able to actually socialize with other teenagers. Not just those who partied, but also the kids who didn't. The use of marijuana slowed me down enough to stop and think before I acted. I became more comfortable in situations that used to be very stressful and difficult for me.

As an adult, I had problems with any kind of relationship. I could be friends with men, but on a dating-relationship level, I could never stay in one more than three or four months. I was still impulsive, spending money earmarked for bills. I had a serious drug and alcohol problem, and my self-esteem was in the basement.

After I had children, I found that I had another serious problem. I had no patience and no control over my temper. I became fearful of hurting my own children. I took parenting courses and had several classes in child and adolescent psychology in college, but even with all these courses, it didn't help when disciplining my children. There were times when I actually felt like beating my kids senseless. I couldn't understand how I could feel this way when I loved my children. It got to the point where any little thing would make

me break into tears. Sometimes I would cry for no reason. I knew I wasn't depressed because I was always happy. But my mood swings were driving me crazy. One minute I would be mad, the next a raging maniac, then I would start crying, and then I would be fine as if nothing had happened—all in a span of five or six hours. I would get depressed, but it would never last more than a day or two. Sometimes I felt as if I was going crazy.

Since I have been involved in the Ritalin study at the University of Utah Medical Center, my whole life has changed for the better. I finally feel normal. My mood swings are almost gone. They could almost be considered normal. I don't explode or blow up over little things anymore. I have more patience with my children and have been able to institute a more consistent form of discipline without the physical violence that permeated my discipline before.

I have better control over my impulsivity. My financial situation has improved considerably, and I no longer find myself spending money recklessly. I have even stopped my drinking and use of drugs without having to go through any kind of counseling or rehabilitation. I find that I just don't have the desire to do them anymore.

But the most important change of all is in my self-esteem. For the first time in my life, I can actually say that I like myself and I can accept who I am, with all my faults and my assets.

The Ritalin has changed my life for the better, and I will challenge anyone who says that is not an effective medication for adults to use. I don't want to go back to what my life was like before, and I hope that I will be allowed to continue the use of Ritalin for my ADHD.

## **SONIA: COMMENTS BY DR. WENDER**

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Sonia was the first patient I diagnosed as having “minimal brain dysfunction” (the older term for ADHD) persisting into adult life. When I first met her and she presented her history, I felt that she was an unhappy woman who had had an exceedingly difficult childhood and had discovered that she felt better when she drank in moderation or took weight pills or stimulant drugs. As we talked about her symptoms and life history, it gradually became clear to me that she was a “minimally brain dysfunctioned” child who had grown up. She gave a detailed account of the metamorphoses of her symptoms as she grew older and their response to stimulants, which was atypical—she became calmer, less angry, more trusting. She convinced me that she was what I then thought a real rarity, an “MBD” adult who responded to stimulants as MBD children did. Her history follows. I then followed her for almost forty years. Her improvement on the overall scale of psychological and occupational functioning went from “moderate to severe impairment” to “slight impairment.” Her score on the scale of social adjustment has improved from “moderate to severe maladjustment” to “good to excellent adjustment.”

## **STATEMENT BY SONIA**

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I am a sixty-six-year-old American woman of Russian extraction. I have no physical impairments, and I am reasonably healthy despite being slightly overweight. I have a PhD in medieval history, I am a member of Phi Beta Kappa,

I speak two foreign languages fluently, and have a working knowledge of several others. I am a freelance writer and editor. I have been married for forty years to a medical science professor, and I have had no children.

Because childhood ADHD is so frequently equated with school difficulties, it would seem unlikely that the above-described “achiever” had ever been afflicted with ADHD. I, however, having spent a lifetime in the skin of that individual, have no doubt that I was an ADHD child. Besides the overt “hyperactivity”—including terrible difficulty falling asleep, and once asleep, waking up—I had many of the other signs: impulsiveness, stress intolerance, hot temper, garrulity, bossiness, stubbornness, unpopularity—and I was easily distracted. Moreover, *I am not drastically changed from that child*—except to the extent that I am medicated. Atila the Hun on tricycle wheels did not undergo a startling transmogrification at the age of thirteen or fourteen. I did not suddenly become a tractable, well-behaved, rational, and controlled adolescent; I merely withdrew. I became a sullen, fearful, unpopular teenager with periodic episodes of explosive temper. In young adulthood I was unconventional in my behavior, “pushy” in my dealings with others, and still subject to explosive temper. Since my early forties I have been medicated with amphetamine, which has given me the control that makes life reasonably peaceful and productive—*but the child is still there*, and even as a successfully medicated adult, I have no difficulty identifying with her.

But why, then, did I not fall into the usual life pattern of one failure after another? I suppose my first advantage was being bright. Reading—most learning in fact—came easily to me, and I think I learned how to compensate for my lack of attention span in one way or another; for instance,

somewhere, sometime, early in life, I apparently discovered two techniques for facilitating any kind of rote learning: (1) I could concentrate better if my pencil was engaged (taking notes, scribbling in margins, underlining key words) and (2) most abstractions could be learned if they could be reduced to a concrete image (a graph, a chart, an outline, a diagram, a fanciful cluster of shapes, a Technicolor picture on the bland screen on my brain). Numbers, lists, abstractions, then, never became *easy*, but at least they became manageable. And, because school was my joy from the first day, I became easily obsessive about any form of learning.

Another factor could well have been my much maligned “stubbornness.” Each time I was told, “You never finish anything,” I responded to the challenge, and the “I’ll show you” attitude kicked in, so that I remember being tenacious about many tasks that required a good deal of attention span. But then, I ask, it is truly “attention span” or is it a compulsive, obsessive desire to compensate for a native distractibility that wears you out and drives you crazy and makes your day-to-day existence a painful experience from waking (catastrophe) to sleeping (collapse)? Much of the anguish is trivial, of course: I cannot bear to have someone read over my shoulder or watch me do anything that requires some concentration. I cannot tolerate anyone in the kitchen when I’m preparing a meal. I cannot carry on a conversation or drive if the radio is on. All day long I hear everything and mechanically identify each sound: the mail truck, the cat coming through the swinging pet door, the click in the furnace, the robins in the pyracantha, a sudden shift in the wind. My brain is never on automatic pilot. My husband and I long ago decided that on long trips it made sense for me to do all the driving, since I drove the whole way in any event—whether I was behind



the wheel or not. I am incessantly noting and recording facts—important and trifling indiscriminately: the state of the gas gauge, the shabby brown and white dog on the corner of High Street and the Cornmarket, the position of the town in relationship to the river, the cop in the white Jaguar squad car in Aberdeen. I’m handy to have around on a second trip to anywhere, because I never forget a place. I know how to get from one side of town to the other, and I’d be a perfect traveling companion if I weren’t so habitually uptight, if I didn’t gasp *look out!* to the driver, if I didn’t bark out orders and directions and become shrill when they weren’t carried out to my satisfaction, if I didn’t have to stop at the gas station “rest room” so often, if I didn’t keep mentioning the funny little rattle in the engine that wasn’t there yesterday. . . .

And I cannot bear a wind that lasts longer than three or four hours: It drives me wild and wears me down and sets my teeth on edge and makes me impossible—*more impossible*—to live with. It impinges, intrudes, makes demands on my consciousness, and concentration is then quite out of the question. To put it another way, I feel as if my brain has no filtering system for the massive sensory barrage that relentlessly assails it.

All the other characteristics of ADHD children—impulsiveness, disorderliness, temper, hyperreactivity, unpopularity—I recall well, and in retrospect, I believe they all stem from an overpowering impulse to act. The overriding theme is *urgency*. Everything is urgent. There is no letup. Life is an endless, relentless series of white-knuckle events. All of the miscellaneous dysfunctions (low frustration tolerance, poor planning and judgment, recklessness, disregard for injury, antisocial behavior) are reducible to an urgency

that brooks no delay, no postponement, no obstruction to the fulfillment of a necessary goal, which is usually an urge to act. I believe it is a hyperactivation that is not susceptible to reason, to suppression, to socialization, to inhibition—it is a force that is compelling, distressing, and uncontrollable; and it manifests itself in an urgency that cannot be ignored—a kind of “tunnel vision” of life.

Because of a number of chance circumstances, I have had doctors’ prescriptions for amphetamine at various times during my life: When I was an undergraduate I consulted the student-health physician for extreme fatigue (we called it my “sleeping sickness” or “hibernation” because it was most prevalent in the fall and winter); she prescribed small doses of amphetamine, which I found fairly miraculous. Parenthetically, all during my undergraduate years I consumed enormous quantities of coffee when I studied. I don’t now remember how long I took amphetamine during that period, but I do remember that I was very favorably impressed with the results. When I was in my mid-to-late twenties my husband and I thought we’d like to begin a family; I, however, suffered from endometriosis, a condition that is frequently associated with barrenness. At that time endometriosis was susceptible to a great many tentative—trial-and-error—courses of treatment and, having undergone a course of basal-temperature recordings, Cytomel, estrogen, progesterone, myriad combinations thereof, and, as somebody’s last resort, Dexedrine, I was no nearer to motherhood than I had ever been—or ever would be. I was, however, about to embark upon a decade of remarkable creativity, productivity, and relative contentment: I explained to my gynecologist that the amphetamine made me feel very good, and he obligingly assured me that there was no harm in my

continuing to take the drug. I can no longer remember the trade name of the compound or the dosage, but as I recall, I had a prescription for 100 tablets, which I had refilled every three months for ten years. I was scrupulous about never exceeding my allotment of drug—perhaps because I sensed that it would be taken away from me if I abused it, perhaps because I never felt a need for more. During that period of purposeful activity, I researched and wrote my first novel, I undertook several major landscaping and decorating projects in the home we had purchased, and I quit smoking—three packs a day. I continued to pursue my intellectual and literary interests, and in 1965 I decided to return to school, this time to earn a degree in history, which I had found to be more broadly appealing than Romance languages, my undergraduate major. I finished my MA in 1968 and in 1970 I successfully passed the qualifying exams for a PhD.

In that year the cause of a slow but troublesomely persistent weight gain was traced to moderately severe Gull's disease (underactivity of the thyroid gland). I was—and am still—treated with thyroid hormone, but the amphetamine was judiciously discontinued. It was not a happy decision: While my hypothyroid symptoms—dry skin, edema, hoarse voice, etc.—disappeared, I continued to gain weight, I was depressed, and I was unable to work on my dissertation. After a few months I consulted an internist who specialized in “weight control.” He prescribed a reducing diet and issued a prescription for—wonder of wonders—*Didrex!* (a stimulating amphetamine-like drug). I eagerly took the drug, followed the diet, lost twenty pounds, and was, once again, happy and purposeful. Unfortunately, when I failed to lose more weight, my physician scolded me and withdrew the *Didrex*, and I ceased

to consult him. Again I was depressed, again my weight soared, again I was unable to work on my dissertation. In addition, my alcohol consumption rose sharply, and there were severe recurring conflicts with my husband. In January of 1972 I decided to finish my dissertation by June—or die trying. Without telling my metabolics doctor or my husband—who had always objected to my taking Dexedrine—I again appealed to the “weight specialist” I had seen before. Motivated by desperation and reliant on native craftiness, I managed to lose just enough weight to keep the drug coming, and I carefully husbanded whatever excess drug I could squeeze out of my monthly prescription. My credibility with the weight man ran out in May just as I finished the dissertation.

From 1972 (when I received my PhD) until the summer of 1977, I desperately stuffed myself with No-Doz, my weight continued to rise, my inability to make any significant progress on a second novel (begun in 1973) began to be anguishing, my uncontrolled alcohol consumption became debilitating and frankly terrifying, my relationship with my husband deteriorated steadily, I developed a siege mentality, and somewhere within that disordered period I found myself consulting a psychiatrist for depression and frustration at my inability to cope with almost every facet of life—big or small.

Under my psychiatrist’s supervision, I began taking Ritalin (later changed to Dexedrine) in June 1977. In September I finished my novel (from January 1973 to June 1977, I wrote 250 pages; from June to September 1977, I wrote 400 pages!). I remember feeling that my life had been saved. From that time to this I have taken Dexedrine, and if the most reliable proof of the disorder is whether the medication

works, then it is clear to me that I do have ADHD because the medication *definitely works!*

The most noticeable effect of both Ritalin and Dexedrine is a cessation of my normal agitation—physical and mental. The Ritalin has a truly “calming” effect: a serenity that has nothing to do with sedating or euphoria but seems rather to be a conscious feeling of *control* over irrelevant and intrusive motions and thoughts. Dexedrine, on the other hand, appears to give a purposeful direction, a meaningful channeling to the intensity of one’s drive; in other words, it, too, gives *control*, but it appears to be more dynamic, more decisive control. When I take Ritalin, I become aware of the fact that, unmedicated, I habitually clench my teeth and rhythmically move my foot and frequently clutch the arms of my chair; I am aware of these habits by the simple fact of their *absence*. Dexedrine also removes this desultory muscle tension or motion, but it is less noticeable because there may still be activity, but now it has some purpose. In these—admittedly difficult-to-describe—examples I hope to convey the notion that the “good,” purposeful activity may be mental as well as physical, because one of the next immediate reactions that I get to either drug is an exquisitely satisfying awareness of the ability to concentrate, to focus, to blot out the massive, indiscriminate sensory input that continuously besieges my brain.

Another striking effect of both drugs is to remove the frightful intensity and urgency of my day-to-day life. This effect is noticeable not only to myself but also to those who know me well and is one of the changes which my husband particularly perceived at an early stage: I become uncharacteristically patient—both with people and things. My “short fuse” is considerably lengthened. I cease to monopolize

all conversation. Incidents which once would have driven me to rage and hysteria can now be viewed with a certain objective—*help!*—humor.

In a general way, my interpersonal relationships are also greatly improved. For example, with medication I am free to be warmer, more affectionate; I say *free to be*, because, once my irritability is removed, I no longer have to resent the supposed source of irritation, to wit, whoever is in closest proximity to me. My abandonment of domineeringness is equally dramatic after medication; it is even possible for me to regard my uncharacteristic patience and tolerance with some degree of amazement, for it is still easy for me to imagine vividly how I would normally behave toward the people around me—*outrageously dictatorial and impossibly irascible*. Now, it seems fairly unimportant to insist on my way, on my point of view, on my desires. The life-or-death intensity with which I normally operate is absent, and the potential areas of confrontation appear to be either trivial or childish.

On the negative side, my sleeping problems have not been alleviated: If anything, the sleeping problem is exacerbated by the Dexedrine and, as a result, some evenings are most unsatisfactory. If I take my last dose of medication at 3:00 p.m., I may be able to sleep by midnight, but between 8:00 and 12:00 I am sometimes beset by an agitation (rebound hyperexcitability?) that causes me to pace, to become irritable and hostile, to eat compulsively, and to consume too much alcohol. Unfortunately, this agitated state is difficult to describe, and it is equally difficult to separate out the component parts: How much is ADHD? How much is drug withdrawal? How much is alcohol (which has never had a depressant effect on me until the near “passing out” stage)? During the past twenty-two years

I have tried to observe myself and to analyze my actions and responses, and I have come to believe that there is a curious paradox in my behavior: I welcome the control that Dexedrine gives me because it permits me to work, because it permits me to maintain decent relationships with others, because it gives me some relief from the terrible intensity of my daily existence; on the other hand, this *controlled* state is not my natural one, for I think that, at heart, I am a kind of incorrigible savage. In other words, my normal ADHD behavior is overlaid by control, but the normal state is, in a strange way, more comfortable, perhaps because it is familiar. In some ways it is a *relief* to return to the state of hyperactivity, irritability, etc. It must be said that I do, after all—even without medication—exert some control over my disorder, however faulty that control may be. Thus, it seems to me that the use of alcohol gives me the license to throw off my inhibitions (my *learned* control) and to revert to my normal (excitable, aggressive) state; that constitutes relief and, of course, enough alcohol permits me to sleep at last. So, then, the end of my day is most always comfortable.

In addition, the positive effects of the drug therapy (concentration, equanimity, domestic tranquility) are so miraculous that it is easy to be stampeded into overoptimism. Alas, there are some negative aspects of our life that do not go away: It's terribly difficult to believe in an "illness" rather than your essential "badness." The tendency to overt self-denigration never really disappears, nor does the guilt: When you are sixty-six, your opulently developed sense of guilt is no longer negotiable—especially when you revert to "ADHD behavior." There is a helpless consciousness of transgression *before*, *during*, and *after* the event that usually results

in a pathetic eagerness to atone, to make amends. When one adds these difficulties to the evening problems, it is obvious that the miracle is not whole. Fractional as it is, however, it is enough to render one—*me*—inalterably grateful. At my age I think I’m dispassionately resigned to living with many of my reactive patterns: guilt, lack of self-esteem, nighttime agitation. These less-than-desirable attributes I can overlook, *if* I can have *control* and *purposeful activity* for the greatest part of my day. A day of serenity and creative accomplishment is a shining reward that makes all “difficulties” pale into insignificance.

## GEORGE: COMMENTS

### BY DR. WENDER

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George, forty-nine years old, had been in a Ritalin research study for twelve years. George is adopted, and his family history is unknown. His symptoms at intake were varied and severe. He loved to read but was unable to do much, owing to attention and concentration difficulties. Professionally he had lost numerous jobs because of failure to complete important projects on time, and restlessness and fidgetiness that caused him to (literally) jump around. Extreme disorganization at work and at home was a major chronic problem; in fact, he and his wife had separate bedrooms because she can’t stand his messiness. His wife described him as chronically irritable, hyperreactive to sounds that don’t bother most people, and periodically explosive at home and at work. “The kids never know when or at what he’s going to explode.”

Emotionally he was mildly depressed, expressed feelings of guilt and inadequacy about letting his family down, but



seemed *not to worry* about problems his wife felt he should be worrying about. She was particularly upset about his pattern of making impulsive, inappropriate remarks in social settings that his few close friends put up with and that he didn't understand were inappropriate until much later, if at all.

These severe difficulties continued to plague George even after seven years of psychotherapy. He had been receiving Ritalin 10 milligrams every three hours four times per day, and after twelve years in our study showed these changes. His overall score on the scale of psychological and occupational functioning improved from "moderate" to "slight impairment," and his score on the scale of social adjustment improved from "moderate to severe maladjustment" to "excellent adjustment."

## STATEMENT BY GEORGE

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The controversy surrounding attention-deficit disorder is certainly understandable. Those who haven't experienced it personally or through their children are only aware of the various issues through the simplified media coverage. I know. Even though I have the disorder, it took me a long time to realize that my various struggles could be much more than mere lack of self-discipline. From my understanding of the disorder through the press, I initially felt I didn't suffer from ADHD since I didn't manifest the most obvious symptom: hyperactivity. After all, the other symptoms seem common to everyone to some degree for some of the time. It is hard for most people to comprehend that for a few of

us these symptoms are constant and debilitating. It is not a simple disease like the measles or the common cold. We who suffer are so used to the struggle that we are unaware that we are not functioning at a level that others take for granted.

Like most critics, I thought that ADHD was just another fashionable trend in medicine. I felt that taking a magic pill that could change the way your mind works was naïve. It was the easy answer for those who were merely avoiding the hard work of learning the skills of concentration, developing good work habits, and simply taking responsibility for one's immaturity. I distrusted drugs in general. Unlike most of my friends in the sixties, I didn't take marijuana or LSD. I didn't want to give up what little control I had over my behavior.

For most of my life I held onto the belief that I could change my poor work habits if I could just find the right method of self-discipline. When I began to realize that all the efforts I had made to try to become more efficient, more focused, and more attentive were not working, I reached a level of profound despair. Nothing worked. To make things worse, my wife shared that despair. My marriage and family life were on the verge of failure and I had lost all hope.

Like many adult sufferers of ADHD, it took outside pressure from my spouse to force me to submit to diagnostic tests. Even after I was accepted into the University of Utah's ADHD study group, I had lingering doubts about its worth. I was relieved to have a medical explanation for what I had considered serious personality flaws. However, a lifetime of dashed hopes had left me skeptical of much benefit from a mere pill. I took part in an eight-week study in which I received either Ritalin or a placebo. Neither the doctor nor I knew if I was taking placebos or Ritalin.

The first month was discouraging since I figured that part of the time I must have been on Ritalin. There was no discernible difference in my behavior that month. I received the second bottle of pills in November 1992. Without much confidence, I took the first pill of this group that evening before I relaxed in my bedroom to read a difficult book that had stymied me for over a month. I didn't feel anything at all from the pill. Somehow I expected a palpable rise in my awareness, a change in my mood, or a bit of a high since Ritalin is, after all, a stimulant. So I forgot about the pill, dismissing it again as worthless. Soon my wife called me to dinner, a little earlier than usual, I thought. I looked at my watch and realized that nearly an hour had passed. As I marked my place in the book, I noticed with shock that I had read thirty pages without once losing my train of thought. This may not seem significant to most avid readers, but to me it was astonishing. Although I read a great deal, it had always been a struggle for me. Only truly good fiction held my attention for more than a paragraph. But I had read this particularly turgid nonfiction at a much faster rate than I had ever read any of my favorite books.

I became a believer in the miracle drug Ritalin. Why don't people accept such a possibility when we all know that other drugs are equally amazing? We take aspirin for granted as one of the most effective medicines for pain, but no one has been able to discover how it works. This cheap, simple drug is now being recognized as helpful in controlling heart disease and preventing strokes.

During that next month other subtle changes occurred that were much more apparent to my wife and children. Before I describe the many ways this drug has affected my

life, I have to give you an idea of what my struggles were like for the previous four decades.

The first clear memory I have of my lack of attention was in fifth grade. I know it was obvious earlier because my mother told me that even my second-grade teacher commented on my “daydreaming.” But in fifth grade I remember a specific day when we were reading silently in class about Mexico. As I was reading, I remember feeling anxious that I wouldn’t finish the assignment before the class day ended. I kept looking at the clock to see how much time was left and trying to push myself to read faster. I looked at my neighbors’ books and noticed they were much farther ahead than I. There was a wonderful photograph of a lush mountainside with a man taking a loaded donkey down a narrow trail. I began to think about being there on that trail, feeling the hot Mexican sun, and hearing the birds in the trees.

Soon I was thinking about the canyon near my home that cuts into the city from the foothills of the Wasatch Mountains. I remember seeing the Denver-Rio Grande train going past the swimming hole one day of the previous summer. I looked out the window to see if the weather was good enough to go down there that day right after school. My teacher noticed me gazing out the window and asked me if I had finished already. She became angry when I said no and took me out in the hall. She gave me a stern lecture about my lack of “stick-to-itiveness” and embarrassed me deeply. I remember vowing to never let that happen ever again. But, despite all my efforts, it occurred over and over again, even through college. Every time I caught my mind wandering from the text, I would try to force myself to focus. It never worked. In minutes my mind would be on another track. It was apparent that the harder I tried, the more anxious

I became, which inevitably caused me to think about not getting finished and imagining the consequences instead of focusing. I never occurred to me that there was anything I could do besides vowing to learn how to change my bad habits. But none of the study techniques I tried seemed to help. I generally approached my work in a state of panic, spending late hours trying to catch up, and developing a chronic case of diarrhea.

All through school I never finished a single textbook. I specifically recall being desperate about chemistry. Despite my intense determination to do well, I was only able to read two of the seventeen chapters assigned for that year. I still managed to get a C in the class. In most of my classes, I survived purely by my wits. Fortunately, my memory for facts has been phenomenal and compensated for my inability to focus on my reading. Taking notes was a disaster since it got in the way of my listening. Since I got good grades, my parents never worried about my work and never pushed me to do better. They were just happy that I wasn't a poor student like my three brothers. They didn't suspect that I was having difficulties.

They didn't have to push me because I already did so myself, mercilessly. I would consistently stay up to one or two in the morning to work on assignments which should have taken half the time. I would come to school exhausted, often with my work unfinished. Teachers regularly gave me good grades on my incomplete papers because it was obvious that I understood the assignments. Report cards would usually comment on my incompletes, that I was capable of doing much better.

Because I loved literature, my favorite class was English. I eventually majored in English in college. I often came early

to my favorite high school English teacher's class to talk about what we were reading in class and about other fiction as well. Despite my constant lack of full preparation, I would still find time to read other things. She told me near the end of the year that I had a wonderful mind for literature, but it was too bad that I didn't work hard enough. I remember thinking that I couldn't possibly work any harder.

One symptom I never had to any great degree was hyperactivity. Perhaps if I had, my ADHD would have been recognized earlier in my life. Of course, in the 1950s and early 1960s hyperactivity was not yet considered anything more than poor behavior. The most I would do was bounce my leg rapidly in my chair or tap my pencil. This would irritate my parents, and later my wife, but I was only admonished to quit doing it. I would sit at my desk without jumping up and running around like other ADHD kids.

However, I was very impulsive. When my mind wandered away from the immediate tasks at hand, I would think of other things I needed to do and drop what I was doing and pursue the distracting interest. Too many things had the capability to distract me from the more crucial tasks. In a perverse way this was often beneficial to my education. For instance, whenever I read an unfamiliar word, I would immediately look it up in the dictionary. Words have always fascinated me. However, once in the dictionary, I would look up synonyms, antonyms, and the etymologies of the word I was researching. Often the simple goal of looking up a single word would take half an hour or more. Although my vocabulary and spelling skills grew to be impressive, I wouldn't be able to finish reading anything within a reasonable time. Distractions would also benefit my later interest in architecture. The tendency to go off on a different angle would

aid my designs because my divergent thinking often led to unique ideas and other possibilities that could not be predicted in a strictly linear approach. Unfortunately, precious time would be lost, and I would have to work long hours to synthesize these ideas into a coherent whole. Usually this would leave me exhausted and many of the details needed to complete the design would be poorly thought out.

Usually the content of my reading would stimulate related but diverging thoughts. This helped me to gain better insights about literature through analogy. Mention of an unfamiliar event, topic, or person would drive me to my encyclopedia in another time-consuming digression.

This was also particularly noticeable in my speech. If I were talking with someone about some idea, I would often veer off the track in mid-sentence with a related point. This would generally lead to yet another diverging explanation until I would lose all sense of my original direction. While listening to others, I would be thinking of my next thought, which I feared would vanish before I had time to respond. I would blurt it out before the speaker had a chance to finish his point.

Since my mother also had this annoying tendency, our conversations were particularly chaotic. She would complain that I didn't have a clutch on my tongue, that my speech would jerk into motion before I engaged my mind. Of course, her habit of finishing my sentences for me while I was searching for the right words drove me crazy.

Needless to say, my social skills did not develop in a normal manner. Many people would gradually drift away from me while I tried to talk to them. I tended to keep quiet whenever I met new people. Parties were never much fun. I was particularly uncomfortable when I met anyone who

spoke with grace and ease. By the time I graduated from high school, I was so resentful of the popular students that I was becoming bitter, sarcastic, and deeply depressed. I not only had not gained any confidence in myself, but I began to lose hope that I would ever be able to perform the tasks necessary for success in any field that I wanted to pursue. When teachers or employers would give me instructions, my mind would often be racing along unproductive directions. I would try to take extensive notes during and after instructions, but they were inevitably chaotic and difficult to read.

My attempts to organize my work led me to try many different techniques that would have been effective for the average person. But they rarely worked for me. I would be thinking of too many things at the same time and be frustrated about learning how to make priorities. Despite the many files I organized, I would usually lose some crucial bit of information and waste my energy trying to recover it. I became fanatical about having all the information I needed to finish a project. If I didn't know an answer to some matter, its importance would grow into an obsession. I grew more and more unable to make simple decisions.

Despite all my problems I managed to receive a degree in English literature and later a master's in architecture. After I got my professional license, I began to believe that maybe I had grown out of my bad habits. However, they continued to persist and even got worse.

Becoming an adult did not end my ADHD. Of course, I didn't realize that my problem had a neurological basis. I continued to feel depressed about the pervasive nature of my problems. Nothing seemed to work for me. In twenty years of professional practice, I did not advance to the level of income, performance, and ability that I knew I was capable



of achieving if I could only work productively. I resented my colleagues who did much better than I, those whose design abilities were less than mine. Of course, I rationalized; they knew how to use the system better than I. I became very adept at finding excuses for losing jobs, blaming others for my failures. I turned this onto my wife as well. My negativity almost destroyed my marriage. I blamed her for being too difficult, too demanding. I realize now how badly I abused her trust and love. Even though I knew she had the right to expect me to be home when I said I would be, my inability to predict how long a project would take drove her to despair. It was so hard to keep my work timely and give her and our children the attention they deserved. My frustration with work left me irritable with my family. Often, I would explode in unpredictable anger. Thankfully, they kept their faith in me long enough for me to discover the possibility that I had ADHD.

It would be an exaggeration to claim that my life has changed overnight into a wonderful dream since I have been on Ritalin, but the long nightmare is at least over. Although I still have a lot to relearn about organization, time management, social skills, and obsession with detail, I no longer feel despair or anxiety. I can now make reasonable estimates about the time necessary to complete projects and finish them without resorting to long anxiety-ridden nights. My relationships with my employer and fellow workers have improved significantly. I'm more cooperative and attentive to their needs. Architecture has now become the delightful profession I had long ago wished it would be. I no longer drag myself to work late and exhausted because I stayed up late trying to catch up.

Ritalin literally saved my marriage and my relationships with my children and close friends. I pay attention to them

without getting defensive, critical, or insensitive. The last twelve years with my wife have been a marvelous restoration of our initial love for each other. We share much more time with each other, and her trust in me continues to grow. I no longer keep her waiting up for me past the time I have told her I would be home. I don't make us late for movies or parties because I always know where I leave my keys now. She tells me her feelings now without fear that I will criticize them as irrational, which they never were.

Distractions will occur, of course, but I do not impulsively respond to them. I have limited my nonarchitectural interests to those that are important to me. I have enjoyed researching a particular social problem (not ADHD) that I have deeply cared about for twenty years. My writing about it has received recognition from the international press and a growing audience of those intimately involved in it. One of the rewards of this effort has been several opportunities to travel and speak to the public. Last year I went all the way to Melbourne, Australia, to speak to the Victorian Parliament, several other groups, and to the press.

This is amazing to me since I had never been comfortable speaking about ideas for the fear that I would make a complete fool of myself. I can confidently speak to many people at once and maintain a coherent direction without confusing them with digressions. This is immensely satisfying after a lifetime of being unable to express myself.

As I said at the start, I can understand that some people lack acceptance of ADHD as a neurological disorder and the effectiveness of its treatment through a mere drug. Unless someone has gone through the agony of my experiences, it is difficult to accept. I can only hope that critics can suspend judgment about this as additional scientific evidence is

assembled. I am confident that ADHD will be appreciated in the near future and that the medical profession will finally and fully recognize the validity of the diagnosis and its treatment. Scientific revolutions have often been dismissed as false, even blasphemous. Galileo, Darwin, Pasteur, and many others had suffered the similar outrageous criticism that ADHD researchers have received from reactionary groups like the Church of Scientology. For the sake of the thousands of sufferers of attention-deficit hyperactivity disorder, both children and adults, I hope that sympathy and understanding will soon prevail over the hysterical forces of ignorance. They deserve the right to experience a life relatively free from confusion and despair.

## COMMENTS BY GEORGE'S SPOUSE

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It's always been hard to put my finger on exactly what was so difficult about living with George. By all standards, he was the ideal male: he worked hard, was faithful, wasn't abusive, was highly intelligent, and was extremely good-looking.

My complaints were those of every married woman: He was uncommunicative; he kept me waiting for hours; he didn't care about my feelings; our ways of managing money and disciplining children were diametrically opposed; etc.

The problems were run-of-the-mill but abnormal in the sense that they were extreme and unrelenting: for example, he would estimate that he had three or four hours of work before coming home, but it turned out to be *eighteen* hours, an "all-nighter."

My emotional history made me very vulnerable to someone not showing up. I would be in a state of panic for

hours. Even though I told George how much I suffered when he kept me waiting, he never changed his behavior. I could never count on him to be on time, to help with decisions or with the children. He just could not attend to his inner world or to the rest of the problems of living.

One night we came home at midnight and our thirteen-year-old son was playing catch at the corner. I yelled at him to come home. He didn't. I asked George to deal with the problem, and he got furious with me for yelling, thereby disturbing the neighbors.

An angry tone of voice always irritated him. Once he got mad because the sound of my daughter chewing croutons irritated him. It took hours of discussion for me to convince him to be reasonable. I thought that I was the one who was lacking in relating and communicating skills. This eroded my self-esteem.

His behavior was unpredictable, impulsive, and almost completely unresponsive to outside influence. Raising my voice, confrontation, asserting my needs, explaining, getting angry, moving out twice, not only failed to get my needs met but resulted in his asserting that I was the "bad guy."

A typical scenario occurred the summer our twelve-year-old daughter was in a recital at a music camp in St. George (Utah). After the five-hour drive George arrived rather disheveled and his appearance caused our daughter some embarrassment. The next day we were attending the recital, and after examining the program, George assumed that he would have time to go get a haircut before Jennifer's turn. After twenty-five years of marriage I knew that it was useless to advise him not to do this. So he went and of course missed her performance. After everything was over, he insisted that she go to the piano and play the piece for him

so that he could get a picture. She was upset and uncooperative and George was irritated.

As my psychiatrist puts it, being around George was like “having to walk on eggshells.”

The stresses of any change in his routine (like a vacation) exacerbated his condition: Once he lost a contact lens while taking it out at dusk at a windswept roadside stop; another time, he left his wallet on top of the car and lost it, thus ruining our skiing holiday. In France, he got so angry when a driver tailgated and passed us that he had to follow the driver and do the same thing.

He was not a mean person, and as long as I left him alone and didn't need anything from him, he was fine and quite mellow. He couldn't tolerate the mildest stresses of family life. The unremitting nature of his impulsive and irrational behavior and the inability to grow and develop into a fully sharing partner are the factors that made our problems different from the usual marital difficulties.

After twenty-five years of marriage plus three years of courtship and after George had been in psychoanalysis for seven years, I was ready to die: I had gotten nowhere in my various careers and I couldn't love the man to whom I had committed so much of my life.

And then one final crisis and the miracle of the ADHD diagnosis and the Ritalin cure occurred.

I had left my job when George had managed to hang on to a job for two years. Our daughter had been accepted at Yale and then, once again, he was laid off (the seventeenth time in eighteen years).

This time, finally, I came to the certain conclusion that my husband suffered from a neurological problem. It

had become imperative that he be correctly diagnosed and somehow taught to adapt to his handicap.

My conversations with George, like everyone else's, were difficult to impossible. Either he said nothing but yes or no to questions that would normally require elaboration, or he would go on and on and on about whatever topic had grabbed his interest at the moment, with no desire for input from the person who was listening to him. If I expressed disinterest, even with just a look, he would become defensive.

I concluded that his disorder was very much analogous to being deaf as he seemed to not perceive other human beings' nonverbal language and expectations,

The changes in George's behavior in the twelve years he's been on Ritalin are as hard to describe as it is to describe the disorder. They are very subtle but the children and I can tell as soon as he opens his mouth whether or not he's taken the medication. Mainly, he isn't so defensive; he doesn't get his dander up at every little thing that doesn't go his way. He listens, and he shuts up when he perceives that no one wants to listen to him. He is more spontaneous and invites me to share in some of his activities. He is accepting when I decline.

He has always worked very hard and was phenomenally energetic. He never seemed to tire. Whereas before he dissipated his energy going from one project to another focusing on his interests rather than on results; now he completes project after project: gardening, remodeling the house, writing, and of course his professional duties.

In summary, I really can't find the words to express what a difference George's treatment with Ritalin has made in my life. The very first pill was more effective than twenty-eight

years of love and patience and understanding and seven years of psychotherapy.

I have a master's degree in neurophysiology and have worked for nearly thirty years in neuroscience and as a teacher of disturbed adolescents. I am an expert on Freud. I would never have believed that a drug could have such a profound effect on someone's behavior.

First of all, I thought that a drug's action would be too global to be effective. Secondly, I thought George's problems stemmed from having been brought up in a dysfunctional family and that he needed to learn new behaviors. Now I am convinced that Ritalin affects the firing of neurons such that perception of the outside world is different than it is without the medication.

## **BRUCE: COMMENTS BY DR. WENDER**

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Bruce was a fifty-four-year-old teacher and sports coach who left his job after more than a dozen years at the same school because of an accumulation of complaints both at school and in the community. He described himself as having been very restless and inattentive during elementary school, where he had a difficult time learning and was a "troublemaker." When he was four years old, he told his parents that his brother had drowned, "just to get a rise out of them." As a six- or seven-year-old, he got annoyed and broke all the windows in his father's car. He had very low feelings of self-esteem. Not only was he a recognized problem in the school, but his father was the town drunk. His Parents' Rating Scale score was 22 (over the 99th percentile—see Appendix). There was

a family history of alcoholism. Both his parents, his brother, and one sister were alcoholics, and the patient said he would have become one, too, had he not vowed (successfully) not to drink much. At the time of his entrance into the research study, he had just left his teaching job and was in the process of looking unsuccessfully for another job. Under this pressure, his ADHD symptoms had become more severe. He was having chronic difficulty with his wife and was estranged from his two older children. During the placebo and drug trials, he showed no response to placebo and yet a marked beneficial effect from Ritalin. The dose was eventually standardized at 90 milligrams a day (15 milligrams every two and a half hours six times per day). He has continued on the drug for ten years without any signs at all of the development of tolerance. His overall score on the scale of psychological and occupational functioning improved from “moderate to severe maladjustment” to “slight maladjustment.” His score on the scale of social adjustment improved from “moderate to severe maladjustment” to “excellent adjustment.”

### COMMENTS BY BRUCE’S SPOUSE

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When I met and started dating Bruce in the 1960s, he was in the US Army. I dated him and got to know him pretty well over the next year. I also knew his parents and his four brothers and sisters. As I got to know his family better, I noticed that most of his family members were very “quick tempered” and seemed to act quite impulsively. While dating Bruce, I lived with his sister, while we were both in the process of getting a divorce. One of the most common examples of his sister’s behavior is that she never allowed



enough time to get ready for work and almost always ended up throwing either the iron or her clothes across the room and bursting into tears and usually blaming whatever, or whomever, she could. The family thought of themselves as “outspoken.” I thought they acted without much thought or common sense. In most circumstances Bruce and I got along quite well. We were not in very many stressful situations, even though I did observe that Bruce had a “quick temper,” usually directed at the “idiots” on the road that didn’t know how to drive. He was also very sensitive and thought people were talking about him, but often they would be, to comment on his “quick-tempered” behavior.

All of his family liked to consume alcohol, and this habit seemed to enhance all of these negative behaviors. Both of his parents drank regularly, his father daily, his mother usually all weekend. All of his family drank more than occasionally, and Bruce’s only brother and one sister have been in several programs for alcoholics. Bruce quit shortly after our marriage, or I’m positive we never would have made a life together. Whenever under the influence it was common to have verbal and physical confrontations while dancing at a local club. Bruce felt like the bartender was not putting the amount of alcohol he should have been, so he took a drink of it and threw it across the room into the jukebox. When the waitress came over, he told her he wanted a drink with some alcohol now.

The thing the family members were most successful at was excusing each other’s and their own behavior, always claiming that if “they hadn’t screwed up” or if “he would have shut up” or if “she would have just done she what should have,” then they wouldn’t have become angry or lost control. This behavior bothered me a lot. However,

Bruce and I decided not to consume much alcohol, which helped greatly, and until after we married in 1967, I didn't observe this behavior very often. Since Bruce was and is a very intelligent and caring person, it seemed I could overlook the other behavior, and like every other woman in the world, I thought he would improve with time—Bruce didn't. I observed very belligerent, impulsive behavior whenever a near-crisis situation would come up—for example, arriving in a large West Coast city and having Bruce behind the wheel and trying to survive his outrageous out-of-control behavior when he couldn't find the address, which was always. He would, as I called it, pull his big "R&R" (ranting and raving) until I could visualize somehow getting him out of the car and then either running over him or driving off and leaving him and never seeing him again.

There are literally hundreds of similar examples over the years. Instead of carrying out either of the examples I just used, I chose to distance myself from Bruce. By the early 1970s we had four small children. I spent a lot of my next years keeping every stressful situation from Bruce that I could, covering for the kids so they didn't make Daddy angry, and even though Bruce was quite successful at blaming me for his behaviors, I tried never to let him do it to the kids and handled everything that I could alone. I learned to resent and feel unhappy and lonely most of the time. I tried to invite family or friends to our home when Bruce had to work, because when people were visiting were the times he would always manage to have a reason to be out of control and usually yell at me and usually throw something or just be generally rude. Every time we had events we had to go to, I would try just to leave Bruce home. My salvation, so to speak, was that along with his working full-time and

part-time, when he was home he wanted to be left alone and spent all of his time at home watching TV.

Bruce spent over a dozen years teaching. At this job and his part-time job, even though he was always very qualified, he continued over the years to have personality conflicts with unruly kids and their parents, and though very educated and knowing what he wanted to communicate to people, it never worked out. Bruce was the most “unlucky,” “misunderstood” person in the world, and he always ended up losing his temper and letting the other person know the problem belonged to them and that they were idiots. Bruce went through hell because of these problems, and finally over the years Bruce even started realizing as I did that these were “his problems.” Finally, in the late 1980s, he was given the choice to resign or be fired from teaching, and he resigned. He felt very “picked on” and had a very hard year out of work and found it impossible to get another job that was very impressive, or paid very much. We were barely staying married and were both very unhappy, but with eight children we didn’t have too many choices. I am positive if Bruce hadn’t gotten into the ADHD study, I would have divorced him.

About his situation in life. One day while he was listening to the radio, he heard someone talking about a federal study in ADHD. They talked about the symptoms and effects this could have on someone’s life—Bruce quickly called me to listen and asked me who this might sound like. It described Bruce *exactly*. We got on the phone and made an appointment and went in.

The first two weeks Bruce was on Ritalin I could tell a great change in him. Instead of him barely being able to concentrate on one conversation or one telephone call, he would watch TV and listen in on my phone conversation,

which I never had to worry about all the years I knew him. I found him being able to communicate with the kids and follow through with reasonable discipline. One son commented that he liked Dad better before he “knew what was going on” because now he would follow through when he grounded them or whatever he was doing with them. Soon he could even talk to our oldest son with no tempers flaring, and being aware of how he would have reacted earlier in life. For the first time I dared to count on Bruce to help me with our now large family. I slowly started to confide in him about a few things, and found I could even vent a little anger about my life.

There is *no*, none, no way that ours would still be an existing family if it weren't for this medication and the counseling therapy that has gone along with it. I feel that Bruce's improvement is both medication and behavior modification. However, if a crisis of any dimension comes up when he hasn't had his meds, we have a very painful recall of past times. Bruce is different in almost every way. He has always wanted to be someone we could count on and talk to and have those he cares about and works with value and respect his opinions. This happens often now.

Bruce works for the government doing a job that is very detailed and takes more concentration than he ever could have had any time prior to this study. He stayed totally away from computers, because they drove him crazy. Now at his job, Bruce helped change his department over to computers, and he is a very well-respected, valued employee. He contributes his ideas and several of his ideas have been incorporated as policy. His communication skills have improved drastically at home and at work. Several years ago Bruce went back to a state university

and received an advanced degree and updated his teaching certificate, and while working full-time and going to school full-time graduated with a 4.0 in his major and a 3.7 overall. Bruce seems to have gained a lot of confidence and isn't afraid people won't respect or listen to him. His life has improved in every way possible.

## FINDING HELP

### FINDING HELP FOR THE CHILD WITH ADHD

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As we have discussed, frequently problems that may be related to attention-deficit hyperactivity disorder in children are often first recognized in the school by teachers, guidance counselors, or psychologists who call the parents' attention to these problems. In some instances—particularly in these days when knowledge of ADHD has spread widely—parents themselves begin to suspect their child has behavioral problems beyond the normal range. We wish to emphasize again that, in either case, to determine the probable cause of the child's difficulties, parents must consult a physician who is knowledgeable about the entire range of children's physical and emotional problems, including ADHD. A thorough diagnostic evaluation is essential before beginning any treatment plan.

The following kinds of physicians are most likely to be acquainted with the problems of ADHD: child psychiatrists, psychiatrists, and pediatricians. What are their backgrounds? All physicians attend four years of medical school, have one year of postgraduate general medical training (internship), and then receive additional training in their

specialty. Child psychiatrists receive two years of training in adult psychiatry and two years in child psychiatry; they are then eligible to take specialized “board” examinations.

All psychiatrists, like all other physicians, must continue to attend courses and engage in other academic activities to maintain their medical licenses, and they must be recertified by the specialized board periodically.

Child psychiatrists are best qualified to evaluate and treat ADHD in children because their training is broad and encompasses the diagnosis and treatment, not only of ADHD, but of all psychiatric disorders of childhood, including those that may occur together with ADHD and those that may be mistaken for it. Most child psychiatrists now recognize that many of the disorders they see are the result of genetic and biological causes and are best treated with medication. However, child psychiatrists are also experienced in evaluation and treatment of psychological problems that accompany or result from childhood ADHD and are trained in the psychological treatment of these disorders.

Pediatricians also treat ADHD and other childhood problems. Pediatricians have two years of postinternship training in the medical disorders of children and adolescents that include some, usually brief, training in child psychiatry. A subspecialist, the behavioral pediatrician, has additional training in behavioral disturbances in children and so is a good individual to treat ADHD. Many pediatricians and family practitioners treat a large number of ADHD patients. There are several reasons for this. Often parents with an ADHD child who have been referred to a psychiatrist will not go, believing that psychiatrists treat only very seriously disturbed children. They

fear that accepting such a referral would mean that their child is much sicker than they had realized. Sometimes pediatricians or general physicians will treat ADHD patients because they feel they can handle it themselves or because they feel there are no competent child psychiatrists in the community. Finally, there are simply too few child psychiatrists to treat the number of children in the community who require help.

Pediatricians and family physicians vary tremendously in their skill and handling of diagnosis, drug management, and psychological assistance of children with ADHD. Some have little training in treating behavior problems, whereas others can treat most routine cases and are quick to refer more complicated problems to child psychiatrists. Yet others who do not recognize the possible complexity of ADHD approach all kinds of ADHD children in the same way, and thus risk providing inadequate treatment.

Mental health workers such as psychologists, nurse practitioners, social workers, and counselors are frequently the first professionals contacted after a referral for evaluation. Although many are experienced at recognizing ADHD and skilled in the treatment of some of the associated symptoms and behavioral problems, they in general do not have much training in child psychiatry and cannot perform the complex medical evaluation necessary nor, except for nurse practitioners, can they prescribe medication. Child and adolescent psychiatrists often work with such professionals in the management of the child with ADHD. If available, such a collaborative approach can often be very useful.



## **FINDING HELP FOR THE ADULT WITH ADHD**

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The physicians best qualified to treat ADHD in adults are psychiatrists. They are trained in the biological and psychological causes of psychiatric disorders and the biological and psychological treatment of them. Other physicians who sometimes treat adult ADHD are pediatricians (who occasionally follow their patients into adolescence and early adulthood), family practitioners, and internists. Their background in psychiatry has generally been minimal. The psychiatrist, trained in both the biological and psychological basis and treatment of psychiatric disorders, is therefore the physician best suited for the job. Not only has he or she been trained to manage ADHD, but he or she is able to diagnose and treat other conditions that may accompany or mimic it. Additionally, the psychiatrist can recognize the remaining ADHD symptoms that did not respond to medical treatment, the maladjustments that ADHD patients suffer because of their disorder—difficulties with their partner or their job—and which are due to other psychiatric problems. The psychiatrist is in the best position to refer the adult ADHD patient for further treatment as needed: couple therapy, family therapy, or vocational training. Should both a parent and a child need psychiatric treatment, whether for ADHD or another disorder, if at all possible separate psychiatrists should be consulted.

## **FINDING A PSYCHIATRIST**

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Having determined that the best specialist to treat either childhood or adult ADHD is a psychiatrist, what is the next

step? The best place to start is to request a referral from one's family physician or pediatrician. One can also inquire of the state or district branch of the American Psychiatric Association (APA) or the American Academy of Child and Adolescent Psychiatry. These days one will also have to inquire of one's insurance company for a list of psychiatrists on their panel. These inquiries will yield the names of several psychiatrists practicing in the community. The caller can ask whether the psychiatrist is board certified or not. However, none of these sources provides an evaluation of the psychiatrist's skill or areas of specialization. Another way to locate specialists in the treatment of ADHD is to contact the department of psychiatry in nearby university medical schools. In particular, ask the child and adolescent psychiatry department if they have specialized treatment for ADHD or behavior disorders, and the adult department if they have a research or a specialized treatment clinic for mood disorders (which include depression, bipolar disorder, and usually, ADHD). Such clinics not only conduct research but also evaluate new drugs and train young psychiatrists in the diagnosis and treatment of these disorders. The level of expertise in these clinics is usually high, and they are often able to recommend not only their own staff but also psychiatrists practicing in the community.

If the university medical school does not have such a clinic, it is sometimes helpful to ask whether any of the senior staff or members of the department of psychiatry see private patients. However, physicians associated with medical schools are not necessarily better trained than physicians in the community. The odds are greater that a physician chosen at random is well trained if associated with a medical school, but it is important to emphasize strongly that there are many excellent psychiatrists who are not. We refer

patients to such psychiatrists all the time; some of them are in private practice, and some are in private clinics that specialize in the drug treatment of psychiatric disorders.

Many communities have community mental health clinics that are supported by federal and state funding and offer psychiatric services on a sliding-fee scale. Philosophies of the clinic and the expertise of their psychiatric staff vary considerably. In some, evaluation is done by nonpsychiatrists. In others, all evaluations are conducted or reviewed by psychiatrists. Community health clinics have the advantage of lower fees, but the prospective patient must still ask the questions about their training that we have mentioned in discussing other physicians who treat ADHD.

After selecting a physician, and after the initial consultation, it is also appropriate to ask how frequent the visits will be and how much they will cost. Should any doubts trouble the parent or adult patient, it is always proper to request another consultation or evaluation. Once treatment has begun, if the treatment prescribed is not working after a reasonable period of time, say several months, another consultation should be requested. Finally, it must be remembered that all problems are not solvable in all people, adults or children.

We should warn both parents who suspect their children of having ADHD as well as prospective patients seeking help for what they think is ADHD that they must anticipate some careful questioning by the physician. Some physicians will be cautious of parental or self-diagnosis of ADHD, since ADHD is being diagnosed on a larger and larger scale, and many patients are mistakenly seeking help for a variety of other psychiatric difficulties that they have attributed to ADHD. Be prepared for, and willing to accept, reasonable questions from the evaluating mental health worker.

## THE EVALUATION PROCEDURE AND TREATMENT FOR THE CHILD WITH ADHD

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To give parents some idea of what a good evaluation for ADHD involves, we have listed the diagnostic techniques usually employed. This summary is not meant to serve as a checklist but to convey to the parent some awareness of what adequate evaluation includes. We will also mention procedures that might be unnecessary or overly expensive in terms of the information they are likely to yield. From a competent evaluation and treatment plan, the parent can expect the following:

1. A detailed psychological history of the child will be requested, preferably from both parents. The purpose of the history is to determine the child's strengths and weaknesses, his assets and deficiencies, by finding out how he has gotten along with his parents, his siblings, his peers, and his teachers. The history will not be limited simply to establishing the presence or absence of the symptoms listed in the *DSM-5* criteria for ADHD (reprinted in the Appendix) but may include those discussed in this book. The clinician will want to know about all behavioral symptoms that might indicate other psychiatric disorders that resemble ADHD or that might occur together with ADHD and require special treatment. Such symptoms may be those of anxiety and depression, which are discussed in the Appendix, as well as alcohol and substance abuse, and others.
2. A review of biological factors that may be related to ADHD and a medical history will be undertaken.

Such questions as the following will be asked: Is there a history of psychiatric disorders among the child's relatives? Did the mother drink, smoke, or use drugs during pregnancy? Were there any problems with delivery? Has the child had any experiences that may have affected the brain, including infection or head injury?

3. Reports from the school will be requested to determine the child's performance, both academically and socially. These may be given over the telephone, by written report, or with standardized questionnaires filled out by the child's teacher. Questionnaires are not only useful in diagnosis but also, when the child is being treated, can serve as an excellent method of determining the amount of improvement in academic achievement and social behavior that is produced by treatment.
4. Parents will be asked to fill out questionnaires. These may be broad in scope to evaluate general psychological problems of childhood or specialized to measure only ADHD symptoms. Like the teacher questionnaires, the parent questionnaires can be used to evaluate the progress produced by treatment.
5. Psychological tests of IQ and academic performance may be required. If the child has learning problems, educational tests are usually obtained to measure both intelligence and level of academic achievement. The goal is to determine if the child's difficulty is due to some degree of intellectual slowness or whether, despite the presence of normal or above-average intelligence, there are difficulties in reading, spelling, or math—that is, signs of learning disorders.

Neurological tests are not generally needed unless there is a suspicion of epilepsy or other neurological disease. In general, tests of brain function such as the EEG, SPECT, and the MRI are expensive and of little value either in the diagnosis or treatment of ADHD.

6. An interview with the child will be conducted. Sometimes symptoms of other psychiatric disorders are present and may not become evident until the physician talks with the child. Not all problems with attention and behavior are the result of ADHD; other problems may look like ADHD or occur together with ADHD, and the child may be misdiagnosed and receive partial or incorrect treatment. The parents may be unaware of anxiety, depression, and many other conditions affecting the child because the child is not forthcoming and does not report these problems spontaneously. Often, the physician may, with tact and time, uncover these masked problems and thus be able to provide specific treatments.
7. Time will be spent with the child and with the parents explaining the child's specific problems in ways that both can understand. Time will also be spent with the parents discussing management techniques useful with an ADHD child; management strategies are discussed in this book.

In follow-up visits, the parent can expect the following procedures:

1. To determine the effects of medication on behavior, the physician will request feedback from the parents and usually from the school as well. School reports

are particularly important because the teacher is observing the child in the areas in which the child has the most difficulty: performing schoolwork, staying on tasks and finishing them, and getting along with other children.

2. To determine the amount of medication, the physician will probably vary the dosage to see the extent to which symptoms can be controlled. The general principle is to increase the dose until either the symptoms are controlled or the side effects become unpleasant.
3. To determine the frequency of dosage, the physician will ask the parent to observe the child (best on weekends) to determine how long each dose of medication lasts and therefore how frequently the dose must be given.

## **THE EVALUATION PROCEDURE AND TREATMENT FOR THE ADULT WITH ADHD**

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From competent evaluation and treatment plan, an adult patient can expect the following:

1. The presence of a partner, parent, or friend will be requested. This other person should be one who can help in the discussion of the patient's past and current problems. As we have mentioned repeatedly, the adult with ADHD who is entering evaluation and treatment often does not fully recognize

the extent of his signs and symptoms. When giving a history, the patient will be asked to cite as many concrete instances as he can of his difficulties in functioning in each of the seven areas of the Utah Diagnostic Criteria (listed in the Appendix) and/or the criteria listed for ADHD in the *DSM-5*. The presence of a person who knows the patient well may give a much richer, more detailed and accurate picture of the patient's past and current functioning.

2. The patient's development in childhood and adolescence will be reviewed. How did he get along with siblings, schoolmates, parents, and parenting figures? What was his academic performance like in elementary school, high school, and higher education?
3. If learning disorders are present, the physician will want to obtain the same psychoeducational tests that are used in evaluating children.
4. A history will be requested concerning adult interpersonal relationships with friends, spouse, partners, and colleagues.
5. A history will be requested of drug or alcohol use.
6. Questions will be asked about symptoms of other psychiatric disorders that resemble ADHD or that may occur together with ADHD and require special treatment. As in the case with children, these symptoms may relate to anxiety, depression, or other disorders as listed in Chapter 6 and the Appendix.
7. A private conversation between the physician and the patient will be held because there are many



issues that the patient may be reluctant to discuss in front of his partner, including other symptoms, feelings he cannot mention, and some life experiences, such as outside relationships. For similar reasons, the physician will probably want to talk to the partner individually to question him or her about matters each might feel uncomfortable discussing in the presence of the patient.

8. If ADHD is diagnosed, a treatment program will be proposed that will consist of what the physician will provide medically and the steps he or she believes the patient should take psychologically. The latter will partially be determined by the extent of the patient's response to medical treatment.

On follow-up, the patient can expect the following:

1. The physician will want to know both from the patient and the partner how effective specific doses of the medication are in reducing or controlling the symptoms and how long they last. This is essential in determining the best dose and the best frequency of its administration. Often the treating physician will use a checklist or behavior rating scale to measure the patient's symptoms on a week-to-week basis.
2. As with children, if residual psychological problems remain after medical treatment, the physician may either decide to provide therapy and training himself or may recommend referral elsewhere for such training or for couple or marital therapy.

## OTHER SOURCES OF HELP

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C.H.A.D.D (Children and Adults with Attention-Deficit Disorders) is the national and international nonprofit parents' support organization for children and adults with ADHD and can inform you of organizations and C.H.A.D.D. groups in your locality. Their address is 4601 Presidents Drive, Suite 300, Lanham, MD 20706; telephone (301) 306-7070; fax (301) 306-7090; (helpline (800) 233-4050); [www.chadd.org](http://www.chadd.org). Attention Deficit Disorder Association (ADDA) is a national support group for adults with ADHD; P.O. Box 103, Denver, PA 17517; (800) 939-1019; [www.add.org](http://www.add.org). Learning Disabilities Association of America, 4156 Library Road, Pittsburgh, PA 15234; telephone (412) 341-1515 is another resource; [www.ldaamerica.org](http://www.ldaamerica.org). The American Academy of Child and Adolescent Psychiatry publishes a series of leaflets, called Facts for Families, that cover a wide range of childhood problems. They will also direct you to your local branch for referral: 3615 Wisconsin Avenue NW, Washington, DC 20016; telephone (800) 333-7636. A book that may be of help to the professional is Paul H. Wender, MD, *Attention-Deficit Hyperactivity in Adults* (New York: Oxford University Press, 1995). It is a book written primarily for the professional, but the lay reader may find the description of symptoms, the rating scales found in the Appendix (for determining the presence of ADHD in childhood), and the detailed discussion of medication particularly useful.



## **APPENDIX**

# **DIAGNOSTIC CRITERIA: DIAGNOSIS OF ATTENTION-DEFICIT HYPERACTIVITY DISORDER AND RELATED DISORDERS IN CHILDHOOD AND ADULTHOOD**

### **DIAGNOSIS OF ADHD IN CHILDHOOD**

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The characteristics we have listed in Chapter 2 are those that describe ADHD children. The formal diagnosis is based on criteria published by the American Psychiatric Association in *Diagnostic and Statistical Manual of Mental Disorders*,

fifth edition (DSM-5).<sup>\*</sup> This manual does not describe all the symptoms we have discussed, *only* those necessary to make the diagnosis of ADHD. The diagnostic criteria employed by clinicians in making the diagnosis are as follows:

- A. The patient must have either symptoms of (1) inattention or (2) hyperactivity-impulsivity.
  - 1. Inattention: Six or more of the following symptoms (5 for adolescent or adults) of inattention have persisted for at least six months to a degree that is maladaptive and inconsistent with developmental level.
    - a. Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities.
    - b. Often has difficulty sustaining attention in tasks or play activities (difficulty remaining focused during lectures, conversations, or lengthy reading).
    - c. Often does not seem to listen when spoken to directly.
    - d. Often fails to follow through on instructions or complete schoolwork, chores, or duties in the workplace (e.g., starts tasks but quickly loses focus and is easily sidetracked).
    - e. Often has difficulty organizing tasks and activities.
    - f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework).

<sup>\*</sup> Material reprinted with permission from the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition. Copyright 1994 American Psychiatric Association.

- g. Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, tools, wallets, keys, mobile telephone).
  - h. Is often easily distracted by outside stimuli or unrelated thoughts.
  - i. Is often forgetful in daily activities.
2. Hyperactivity-Impulsivity: Six or more of the following symptoms (5 for adolescents or adults) of hyperactivity-impulsivity that have persisted for at least six months to a degree that is inconsistent with developmental level.

### Hyperactivity

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

### Impulsivity

- g. Often blurts out answers to questions before they have been completed.

- h. Often has difficulty waiting turn.
  - i. Often interrupts or intrudes on others (e.g., butts into conversations or games).
- B. Some hyperactive-impulsive or inattention symptoms that caused impairment before age twelve years.
- C. Some impairment from symptoms is present in two or more settings (e.g., at school or work and at home).
- D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
- E. The symptoms of ADHD must not occur exclusively during the course of other psychiatric disorders such as psychotic disorders and are not better accounted for by other mental disorders such as mood disorder, anxiety disorder, or disorders of personality.

The characteristics listed are not meant to imply that these are the only symptoms that ADHD children have; they are the *minimal* symptoms necessary to make a diagnosis of the disorder. Needless to say, the rules cannot be followed mechanically but must be used by a clinician who has had training and experience in diagnosing childhood psychiatric disorder.

ADHD is divided into three categories:

1. *Attention-Deficit Hyperactivity Disorder, Combined Type*: If six or more symptoms of *inattentiveness* and six or more symptoms of *hyperactivity-impulsivity* have been present for the past six months, this diagnostic category is assigned.
2. *Attention-Deficit Hyperactivity Disorder, Predominantly Inattentive Type*: If six or more symptoms of

inattention are met but fewer than six symptoms of hyperactivity- impulsivity are met, and these symptoms have been present for the past six months, this diagnosis is used.

3. *Attention-Deficit Hyperactivity Disorder, Predominantly Hyperactive Impulsive Type*: If six or more symptoms of hyperactivity-impulsivity are present but fewer than six symptoms of inattention have been present for the past six months, this category is assigned.

These are the criteria by which a diagnosis of ADHD is made. *DSM-5* also notes features that frequently accompany ADHD (many of which have been discussed earlier). These features vary with age and stage of development but include “low frustration tolerance, temper outbursts, bossiness, stubbornness, excessive and frequent insistence that requests be met, mood lability (instability),” “demoralization (feelings of ineffectuality and helplessness),” “dysphoria (feelings of dissatisfaction or discomfort),” and “rejection by peers and poor self-esteem.”

It is also important to remember that ADHD may be accompanied by other psychiatric conditions, may resemble other psychiatric conditions (and thus be misdiagnosed as present when the other disorder is actually present), or hide behind other psychiatric disorders. This list includes, but is not limited to common and “typical” disorders such as depression, anxiety disorder, obsessive-compulsive disorder, and substance abuse but also learning disorders, oppositional defiant disorder, and conduct disorder. The major features of oppositional defiant disorder and conduct disorder are listed in the following sections.



## **OPPOSITIONAL DEFIANT DISORDER**

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- A. A pattern of angry/irritable mood, argumentative/defiant behavior, or vindictiveness lasting six months, during which four (or more) of the following are present
  1. Often loses temper.
  2. Is often touchy or easily annoyed by others.
  3. Is often angry and resentful.
  4. Often argues with authority figures.
  5. Often actively defies or refuses to comply with requests from authority figures or with rules.
  6. Often deliberately annoys people.
  7. Often blames others for his or her mistakes or misbehavior.
  8. Has been spiteful or vindictive at least twice within the past six months.
- B. The disturbance in behavior causes clinically significant impairment in social, academic, or occupational function.
- C. The behaviors do not occur exclusively during the course of a psychotic, substance use, depressive, or bipolar disorder. Also, the criteria are not met for disruptive mood dysregulation disorder.

### **Conduct Disorder**

- A. A repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated, as manifested by the presence of at least three of the following criteria in the

past twelve months, with at least one criterion present in the past six months:

1. Aggression to people and animals. (7 listed)
  2. Destruction of property. (2 listed)
  3. Deceitfulness or theft. (3 listed)
  4. Serious violations of rules. (3 listed)
- B. The disturbance in behavior causes clinically significant impairment in social, academic, or occupational functioning.

### **Diagnosis of ADHD in Adulthood**

The methods our research group employs to diagnose ADHD in adults are the “Utah Diagnostic Criteria,” so called because they were devised by researchers at the University of Utah. They form the basis of the research we have done on adult ADHD during the past forty years. When we began this research, it was the widely held belief that ADHD diminished in adolescence and disappeared in adulthood. Therefore, we decided to study the most clear-cut cases, adults who as children would have been diagnosed with ADHD, combined type. We have thus studied adults with more severe symptoms and a great number of symptoms. Over time, we and others have found that some children with the purely inattentive form of ADHD grow up to be ADHD adults whose main symptom is inattention and that these adults often respond to treatment with medication, as do those adults with a number of symptoms. This form is not uncommon, but inattention is a common symptom of many psychiatric disorders. We

must emphasize once again that the Utah Criteria evolved from our experience over many years and are provisional. We use them because they work. They will undoubtedly be modified by others and possibly replaced. For the present, we employ them as the most effective and most restrictive tools for the diagnosis of ADHD in adults. Making the correct diagnosis of ADHD in adults is complex and if, after reviewing this material, a person thinks he may qualify, he should seek a professional evaluation for certainty and appropriate treatment.

## THE UTAH CRITERIA FOR THE DIAGNOSIS OF ADHD IN ADULTS

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### I. Childhood Characteristics

The first and most important point is that the individual must have had ADHD in childhood. We retrospectively diagnose ADHD in childhood in two ways:

1. By contacting the mother or rearing person of the patient and directly inquiring about the symptoms that *DSM-IV* requires to make a definitive diagnosis of ADHD in childhood.
2. By inquiring of the patient through administration of questionnaires for the retrospective diagnosis of ADHD in childhood.

The symptoms about which we inquire are as follows. The patient must have had both symptoms 1 and 2 and at least one other symptom from 3 to 6 in the following list:

1. *Attention problems.* Sometimes described as having “short attention span,” distractibility, unable to follow instructions in school or to complete schoolwork.
2. *Hyperactivity.* More active than other children, unable to sit still, fidgety, restless, always on the go, talking excessively.
3. *Impulsivity.*
4. *Behavior problems in school.*
5. *Overexcitability.*
6. *Temper outbursts.*

*and*

A high score on the rating scales, which measure the severity of ADHD symptoms in childhood. Those we have employed have been published in the first author’s book—directed at professionals—*Attention-Deficit Hyperactivity Disorder in Adults* (New York: Oxford University Press, 1995).

## II. Adult Characteristics

In evaluating the adult, the presence of a spouse, partner, parent, or older sibling is of great value. As already mentioned, ADHD adults, having had the symptoms their entire life, are often blind to characteristics obvious to others.

The following are the seven major symptom groups we have found in the adults who clearly have ADHD in childhood and continued to have similar—and other—problems as adults. When we began our research in the early 1970s, the existence of “minimal brain dysfunction” (as ADHD was then called) in adults was not recognized, and we elected to study those patients who had many clear-cut

symptoms. After the publication of the third edition of the *DSM*, we followed its guidelines and studied patients, all of whom had problems with attention and continuing hyperactivity. (These patients would have qualified for a diagnosis of ADHD, combined type, if we had required symptoms of impulsivity as well.)

The diagnostic criteria that evolved were as follows. For an adult to have ADHD, he or she must have had symptoms 1 and 2 and two symptoms of 3 through 7 in the following list. If you do have this pattern, we would definitely diagnose you as having ADHD. And—in the tradition of medical jargon—we would diagnose you as having “classical” ADHD. In our experience, you should be evaluated.

As we and others have continued our studies, we have increasingly recognized adults who had childhood ADHD of the predominantly inattentive type and whose continuing problems are mainly in the areas of attention and disorganization. It is our clinical experience that many of them respond favorably to the same drug treatments, as do the patients with “classical ADHD.” A problem in diagnosing adult patients with ADHD, inattentive type, is that inattentiveness is a very nonspecific symptom. Problems with attention occur in many other psychiatric disorders, and the evaluating psychiatrist will have to determine that inattentiveness and disorganization are not symptoms of one of these disorders. Nonetheless, if you have symptoms of inattention and disorganization that are impairing your ability to function, you should seek evaluation. We have not studied adults who had childhood ADHD of the predominantly hyperactive-impulsive type. It is quite likely that if you have symptoms of hyperactivity or impulsivity and two of the

symptoms 3 through 7, that you have this variant of ADHD and should seek evaluation.

### 1. ATTENTIONAL DIFFICULTIES

Characterized by an inability to keep one's mind on conversations (a frequent complaint of partners is that "he never listens to me and I have to repeat myself again and again"); distractibility (being aware of other stimuli when attempts are made to filter them out); difficulty keeping one's mind on reading materials or task; one's frequent "forgetfulness"; often losing or misplacing things (forgetting plans, car keys, purse, wallet, etc.); and "mind frequently somewhere else."

### 2. PERSISTENT HYPERACTIVITY

Characterized by restlessness, inability to relax, "nervousness" (meaning an inability to settle down—not meaning anxious); inability to persist in sedentary activities (e.g., watching movies or TV, reading the newspaper); always being on the go, unhappy when inactive; talking excessively; fidgeting, often kicking or tapping foot.

### 3. MOOD INSTABILITY

Usually described as beginning before adolescence and in some circumstances going as far back as the patient can remember. Definite shifts from a normal mood to depression or mild euphoria or—more often—excitement; depression described as being "down," "bored," or "discontented"; mood shifts usually last hours to at most a few days and are present without the physical symptoms of clinical depression; mood shifts may occur spontaneously but are usually in reaction to life experience. They can be prolonged if the

patient must deal with—often self-engendered—difficult life experience.

#### **4. DISORGANIZATION, INABILITY TO COMPLETE TASKS**

The patient reports lack of organization on the job, running the household, or performing schoolwork; tasks frequently not completed; switches from one subject to another in a haphazard fashion; disorganization in activities, problem solving, keeping appointments, organizing time; lack of stick-to-itiveness.

#### **5. HOT TEMPER; EXPLOSIVE SHORT-LIVED OUTBURSTS**

Patients report outbursts may be accompanied by loss of control. Anger is not, however, persistent. Easily provoked or constant irritability. Easily irritated while driving (others don't start soon enough after the light turns green, are driving too low, cutting in, etc.). Temper problems can obviously interfere with personal relationships.

#### **6. EMOTIONAL OVERREACTIVITY**

Patient cannot take ordinary stresses in stride and reacts excessively or inappropriately with depression, confusion, uncertainty, anxiety, or anger. Emotional responses interfere with appropriate problem solving. Subject experiences repeated crises in dealing with routine life events. May describe self as easily "hassled" or "stressed out."

#### **7. IMPULSIVITY**

Minor symptoms including talking before thinking, interrupting other's conversations or finishing sentences for them, impatience (which contributes to driving problems),

impulse buying, and buying sprees. Subject makes decisions quickly and easily without reflection, often on the basis of insufficient information, to his or her own disadvantage; is unable to delay acting without discomfort. Major symptoms include hasty business or financial decisions, and abrupt initiation or termination of relationships.

Features often associated with ADHD: marital instability; academic and vocational success less than expected given intelligence and education; substance abuse; histories of ADHD in children and other relatives.

## **ADHD AND OTHER PSYCHIATRIC DISORDERS**

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We have already mentioned the association of ADHD and learning disorders in childhood. It is probable that ADHD adults have an increased risk of having learning disorders as well. These are rarely inquired about or tested for but should certainly be investigated in underachieving students (including those without ADHD) and those ADHD subjects in whom problems in reading may underlie poor job performance. It is important to emphasize that other psychiatric problems may occur with adult ADHD, may mask it, or be misdiagnosed as ADHD. A very brief list of the more common conditions is given next. The correct diagnosis of ADHD requires investigation into all of these (and other) possible conditions.

### **Anxiety Disorders**

Symptoms include chronic states of anxiety, worry, physiological arousal (sweaty palms, rapid heartbeat, tension headaches, upset stomach, etc.).



## **Bipolar Mood Disorders (Formerly Called Manic-Depressive Disorder)**

These illnesses may sometimes occur in relatively mild forms, where the ups and downs may somewhat resemble the mood instability seen in ADHD. A key distinction between the two is that bipolar mood disorder waxes and wanes over the weeks and months while ADHD symptoms are present “24/7.” Typically, when they occur in more extreme forms, they are more easily recognized and are accompanied by multiple symptoms, including physical ones.

## **Unipolar (One-Sided) Depression (“Clinical Depression”)**

Symptoms include sadness, feeling down, an extensive loss of interest in and pleasure from formerly enjoyable activities, a loss of motivation; anxiety; guilt; suicidal thoughts; decreases in energy, sleep, sex drive, and appetite.

## **Personality Disorders**

These disorders involve enduring characteristics of personality that result in individual unhappiness and frequently in social maladjustment. They have been present throughout the subject’s life and, like ADHD, and for the same reason, may not be noticed by the subject. Different personality disorders may be characterized by impulsivity, difficulty in interpersonal relationships, hot temper, and an increased tendency to abuse substances (to mention just a few of the problems seen).

The take-home message is that adult ADHD is a condition for the experienced clinician to diagnose and is a diagnosis that can be suggested—but not conclusively made—using the criteria and rating scales alone.

## PRESENTATION OF RATING SCALES

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We have found that most patients cannot remember the exact symptoms of the *DSM-5* criteria. The criteria require that some of the symptoms should have been present before the age of twelve and include items such as “often has difficulty playing or engaging in leisure activities quietly”; “often has difficulty sustaining attention in tasks or play activities.” When we compared adults’ reports with rating scales to determine the presence of ADHD in childhood, we found that, in many instances, the patients’ self-diagnoses were inaccurate. That is, many of these self-diagnosed patients did not have ADHD as based on the rating scales. When we administered medication to a group of ADHD patients, those who were self-diagnosed but had low scores on the rating scales failed to respond to medication, whereas those who had high scores did respond. This showed the reason for using these scales when we could not obtain direct histories from the patients’ parents. In instances when parents were not available, we diagnosed the patients by a second method.

We would then ask patients about less specific symptoms and administer questionnaires for the retrospective diagnosis of ADHD in childhood.

## **THE PARENT'S RATING SCALE AND THE WENDER UTAH RATING SCALE**

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The two rating scales we have employed in our research are the Parent's Rating Scale (PRS) and the Wender Utah Rating Scale (WURS). As mentioned, we have found that possible ADHD patients with high scores on the Parent's Rating Scale responded to drug treatment, while those with low scores did not. It has apparently not been used frequently by clinicians and researchers, although we have found most patients and their parents are quite willing to have it employed. The WURS is being used increasingly by researchers studying adult ADHD and has been translated into eleven languages. It also seems that more and more clinicians are employing it. It is filled out by the patient himself.

The Parent's Rating Scale, reproduced herein, is to be filled out by the adult who served as the child's rearing figure or is the primary adult who knew the patient as a child. The rating is made by assigning numbers to each of the 10 questions: not at all = 0; just a little = 1; pretty much = 2; very much = 3. Because there are ten questions, the maximum score is 30. A score of 12 indicates a high likelihood of ADHD in childhood, whereas a score of 16 or higher indicates virtual certainty of ADHD in childhood.

## Parent's Rating Scale

Patient's name \_\_\_\_\_ # \_\_\_\_\_ Date \_\_\_\_\_ Physician \_\_\_\_\_

To be filled out by the *mother* of the subject (or father only if mother is unavailable).

*Instructions:* Listed below are Items concerning children's behavior and the problems they sometimes have. Read each Item carefully and decide how much you think your child was bothered by these problems when he/she was between *six* and *ten* years old. Enter the amount of the problem by putting a check in the column that describes your child at that time.

		NOT AT ALL	JUST A LITTLE	PRETTY MUCH	VERY MUCH
1.	RESTLESS (OVERACTIVE)				
2.	EXCITABLE, IMPULSIVE				
3.	DISTURBS OTHER CHILDREN				
4.	FAILS TO FINISH THINGS STARTED (SHORT ATTENTION SPAN)				
5.	FIDGETING				
6.	INATTENTIVE, DISTRACTIBLE				
7.	DEMANDS MUST BE MET IMMEDIATELY; GETS FRUSTRATED				
8.	CRIES				
9.	MOOD CHANGES QUICKLY				
10.	TEMPER OUTBURSTS (EXPLOSIVE AND UNPREDICTABLE BEHAVIOR)				

From Paul H. Wender, *Attention-Deficit Hyperactivity Disorder in Adults* (New York: Oxford University Press, 1995).

A score of 12 indicates that the patient would have been in the 95th percentile for ADHD in childhood; that is, among the upper 5 percent.

# WENDER UTAH RATING SCALE (WURS)

PATIENT'S PATIENT'S M.D.'s  
INITIALS \_\_\_\_\_ NUMBER \_\_\_\_\_ DATE \_\_\_\_\_ INITIAL \_\_\_\_\_

AS A CHILD I WAS (OR HAD):	Not at all or very slightly	Mildly	Moder- ately	Quite a Bit	Very Much
1. Active, restless, always on the go					
2. Afraid of things					
3. Concentration problems, easily distracted					
4. Anxious, worrying					
5. Nervous, fidgety					
6. Inattentive, daydreaming					
7. Hot or short tempered, low boiling point					
8. Shy, sensitive					
9. Temper outbursts, tantrums					
10. Trouble with stick-to-it-tiveness, not following through, falling to finish things started					
11. Stubborn, strong willed					
12. Sad or blue, depressed, unhappy					
13. Uncautious, dare-devilish, Involved In pranks					
14. Not getting a kick out of things, dissatisfied with life					
15. Disobedient with parents, rebellious, sassy					
16. Low opinion of myself					
17. Irritable					
18. Outgoing, friendly, enjoy company of people					
19. Sloppy, disorganized					
20. Moody, have ups and downs					
21. Feel angry					
22. Have friends, popular					
23. Well organized, tidy, neat					
24. Acting without thinking, Impulsive					
25. Tend to be Immature					
26. Feel guilty, regretful					
27. Lose control of myself					
28. Tend to be or act irrational					
29. Unpopular with other children, didn't keep friends for long, didn't get along with other children					
30. Poorly coordinated, did not participate in sports					

From Paul H. Wender, *Attention-Deficit Hyperactivity Disorder in Adults*  
(New York: Oxford University Press, 1995).

AS A CHILD I WAS (OR HAD):	Not at all or very slightly	Mildly	Moder- ately	Quite a Bit	Very Much
31. Afraid of losing control of self					
32. Well coordinated, picked first In games					
33. (for women only) Tomboyish					
34. Ran away from home					
35. Get In fights					
36. Teased other children					
37. Leader, bossy					
38. Difficulty getting awake					
39. Follower, lead around too much					
40. Trouble seeing things from someone else's point of view					
41. Trouble with authorities, trouble with school, visits to principal's office					
42. Trouble with the police, booked, convicted					
MEDICAL PROBLEMS AS A CHILD					
43. Headaches					
44. Stomachaches					
45. Constipation					
46. Diarrhea					
47. Food allergies					
48. Other allergies					
49. Bedwetting					
AS A CHILD IN SCHOOL:					
50. Overall a good student, fast					
51. Overall a poor student, slow learner					
52. Slow reader					
53. Slow In learning to read					
54. Trouble reversing letters					
55. Problems with spelling					
56. Trouble with mathematics or numbers					
57. Bad handwriting					
58. Though I could read pretty well, I never really enjoyed reading					
59. DM not achieve up to potential					
60. Repeated grades (which grades?) _____					
61. Suspended or expelled (which grades?) _____					

Source: Paul H. Wender, M.D., University of Utah School of Medicine, Salt Lake City, UT 84132.

Scoring: Not at all = 0.  
Mildly = 1.  
Moderately = 2.  
Quite a bit = 3.  
Very much = 4.

In scoring the WURS, each response carries a number: not at all or very slightly = 0; mildly = 1; quite a bit = 3; very much = 4. The score is determined by totaling the response numbers for the following questions: 3, 4, 5, 6, 7, 9, 10, 11, 12, 15, 16, 17, 20, 21, 24, 25, 26, 27, 28, 29, 41, 51, 56, 59. The average score for adults who had ADHD as a child is 62; the average score for normal subjects is 16.

Of normal adults, 95 percent obtain a score of 34 or lower and 99 percent obtain a score of 41 or lower. That means that with a score greater than 34 it is very likely that an adult had ADHD in childhood, and with a score of 41 or more it is extremely probable. However, other childhood conditions may also receive high scores, so that the clinician must be certain that the patient who is being evaluated did not have one of these disorders. For example, adults with depression typically have scores in the 30s and 40s, so that a score in the low 40s or even higher may reflect depression, ADHD, or both. Similarly, some children who appeared to have ADHD in childhood develop other disorders as adults. This means that a full clinical evaluation must explore the possibility of whether or not another psychiatric disorder is present.

In conclusion, having read this book, if you feel you meet the symptom requirements for ADHD or have many of the symptoms listed, you may have adult ADHD. However, a correct and precise diagnosis must be made by an adult psychiatrist who can determine if you do indeed have adult ADHD or another psychiatric disorder.

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