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**Booklet for Pediatricians on**

**Learning Disabilities**  
**&**  
**Attention Deficit Hyperactivity**  
**Disorder**

*A Learning Disabilities Worldwide (LDW<sup>®</sup>) Publication*

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## **Biography of Larry B. Silver, M.D.**

Dr. Silver, a child, and adolescent psychiatrist, is in private practice in the Washington, D.C. area. He is Clinical Professor of Psychiatry at Georgetown University Medical Center. Prior to his current activities, he was Acting Director and Deputy Director of the National Institute of Mental Health of the National Institutes of Health. Prior to his positions at the National Institute of Mental Health, he was Professor of Psychiatry, Professor of Pediatrics, and Chief of the Division of Child and Adolescent Psychiatry at the Robert Wood Johnson School of Medicine.

For more than thirty years, his research, clinical, and teaching interests have focused on the psychological, social, and family impact of a group of related, neurologically based disorders: learning disabilities, sensory processing disorder, and attention deficit hyperactivity disorder.

He has more than 150 publications, including the popular book, *The Misunderstood Child: A Guide for Parents of Children With Learning Disabilities*, now in its fourth edition. His other books include *Attention Deficit Hyperactivity Disorder: A Clinical Guide to Diagnosis and Treatment for Health and Mental Health Professionals*, in its third edition and *Dr. Larry Silver's Advice to Parents on Attention Deficit Hyperactivity Disorder*, in its second edition. His most recent book, written with Dr. Dana L. Silver, was published by the American Academy of Pediatrics in October 2010, *Guide to Learning Disabilities for Primary Care: How to Screen, Identify, Manage, and Advocate for Children With Learning Disabilities*.

He is active with the Learning Disabilities Association of America, previously serving as President of this organization. In 1992 he received this Association's highest award, The Learning Disabilities Association Award, for outstanding leadership in the field of learning disabilities. In 1996 he received the American Academy of Child and Adolescent Psychiatry's Berman Lifetime Achievement Award for his contributions to the study and treatment of learning disabilities.



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## Message From the Chief Executive Officer, LDW®

Learning Disabilities Worldwide proudly presents *Learning Disabilities & Attention Deficit Hyperactivity Disorder*, a booklet written for pediatricians by Dr. Larry Silver, clinical professor of psychiatry at Georgetown University Medical Center and former acting and deputy director of the National Institute of Mental Health of the National Institutes of Health. Dr. Silver is an internationally recognized and respected expert on the psychological, social, and family impact of neurologically based disorders such as learning and language disabilities, sensory processing disorder, and attention deficit hyperactivity disorder.

Parents who suspect problems in their children turn first to their pediatricians. Dr. Silver's booklet has been designed to help pediatricians and parents enhance the lives—emotional, academic, and social—of children who exhibit signs of learning disabilities and attention deficit disorder.

While a diagnosis is being made, the LDW® network of professionals and families is available—through publications, DVDs, CDs, presentations, conferences, and its website—with additional information to help families help their children.

For more than 10 years, LDW® has worked cooperatively with the Massachusetts Chapter of the American Academy of Pediatrics to bring you the latest information and publications regarding learning disabilities. We are honored to have made this contribution to you, and we thank you for sending your patients to us for further information and direction. As we continue to work together, we will ensure that every child with a learning disability will succeed. This publication highlights the importance of early identification and early intervention. When a learning disability is caught early and early intervention is set in motion, the child will succeed.

Please visit our website, [www.ldworldwide.org](http://www.ldworldwide.org), and click on pediatrician information. Then tell your patients about the downloadable copy of this publication available to them.

Thank you for your continuing support.  
Teresa Allissa Citro  
Chief Executive Officer  
Learning Disabilities Worldwide

## Thank You From LDW®

Learning Disabilities Worldwide would like to thank Dr. Larry Silver for so generously sharing his internationally recognized expertise in the field of the neurologically based disorders addressed in this booklet, and to acknowledge the contributions of the staff who made this publication possible: Teresa Allissa Citro, LDW® Chief Executive Officer; Phyllis Nissen, Consultant to Special Projects; and Susan McDonald, Graphic Designer. Thanks go also to our generous supporters at the Carroll School, Lincoln, Massachusetts; Commonwealth Learning Centers, Needham, Massachusetts; Landmark School, Prides Crossing, Massachusetts; and Lindamood-Bell, Arlington, Massachusetts.



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## **Introduction**

School is the “workplace” for children and adolescents. Successful school performance is essential for psychological growth and development. Social competency and social skills are developed, then shaped within the family and in school but practiced and mastered in school. Thus, development of a positive self-image and self-esteem is based on successes in school. Feedback from school concerning academic performance and social interactions influences parents’ images of their sons or daughters. Thus, if something interferes with success in school, the impact will affect the emotional, social, and family functioning of this individual.

Learning disabilities (LD) and attention deficit hyperactivity disorder (ADHD) are two major reasons children and adolescents might do poorly in school. Each is a different disorder with unique areas of difficulty, etiology, diagnostic process, and treatment. It is estimated that up to ten percent of all students will have LD and that as many as 10 percent will have ADHD. These are not uncommon disorders.

As professionals, it is critical that you recognize the behaviors and clinical findings that would suggest such problems and that you know how to help parents as they seek the necessary evaluations to confirm the diagnosis and get appropriate interventions. Your diagnostic skills, guidance, and advocacy are essential. Early recognition and intervention are critical. The price for the individual when these disorders are not recognized is significant and can last a lifetime. This booklet will help you help the patients in your practice.



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## Learning Disabilities

### *Definition*

Public school systems use the term, “learning disability.” The medical classification system uses the term “learning disorder.” When working with parents and schools, it is best to use “learning disability.”

A learning disability is a neurologically based processing disorder resulting from “faulty” wiring in the cortex. Depending on what part of the cortex is affected, the student will have problems with learning, language, and/or motor function. These processing difficulties might involve understanding or using language, spoken or written, resulting in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Individuals with learning disabilities are of at least average intellectual ability or higher. They struggle in school because of these processing problems.

Learning disabilities might impact learning to read, write, or do basic math or reading comprehension, written language, or more complex math. Learning disabilities might impact the student’s ability to organize materials and thoughts or to plan a task and carry out that plan. Thus, some problems are apparent in the earliest school years; some are not apparent until late elementary school; and still others show up in middle or high school. In any grade, the presenting problem is struggling with schoolwork, possibly with failing grades. You might hear that homework is a battle every night. Unfortunately, some teachers and parents blame the victim. They complain that your patient is lazy or unmotivated. But if you know what to ask, you will find that there are reasons for these struggles.

It may be tempting to reassure parents by saying, “Don’t worry . . . he will outgrow it.” Please do not do this unless you are sure the problems reflect a developmental delay and you know they will fade with time. With LD, they do not. The “let’s wait” approach loses valuable time when intervention could be critical.

You must find out the reasons for the presenting problems. This child or adolescent might have a learning disability, a language disability, or a motor disability. To be more specific, here are several topics covering learning disabilities.



### *Types of Learning Disabilities*

Learning Disabilities might involve the basic skills of reading, written language, or mathematics as well as the broader skills involved in tasks relating to executive function. Each will be briefly described.

*Reading* involves a complex pattern of neurological processing skills. As the brain matures, the student is able to master more complex tasks. The earliest stages of learning to read begin in kindergarten and are mastered in first grade: letter recognition—Can the child rapidly recognize each of the letters in the alphabet and start to blend them together? By third grade, the child learns to go beyond putting the sounds (called phonemes) to the letters and sounding out the words. He or she should be able to comprehend what the word means. Reading comprehension skills improve through the rest of elementary school. By middle school, the student should be able to read, comprehend, and retain what was read. This ability to retain is called reading fluency.

Kindergarten/first grade	Rapid letter recognition
Third grade	Reading comprehension
Fourth grade on	Reading fluency

As with any task that is learned in a developmental sequence, the concept of disability refers to not mastering the task at the age-expected time. A reading disability might involve the inability to rapidly recognize letters, difficulty with reading comprehension, or reading fluency *beyond the age/grade when this skill should have been mastered.*

*Written Language* also involves a complex pattern of neurological processing skills. In kindergarten, the child develops fine motor skills and learns to form letters correctly. In first and second grades, the child learns to form letters correctly, on the line, and in the correct place. By third grade, the student begins to learn spelling, grammar, punctuation, and capitalization and learns to organize the content of what is written. From this grade on, the focus is on the ability to organize thoughts and to put them on the page. By middle school, the demand to organize information and to produce this information in an organized way becomes more complex and longer in length.

Preschool/kindergarten	Develop motor skills. Learn to form letters.
First/second grades	Place letters on line as words.
Third/fourth grades	Learn spelling, grammar, punctuation, capitalization. Learn to organize thoughts into complete written content.
Fifth grade on	Learn to organize thoughts and to write full and complete answers and reports.



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Thus, a written language disability might involve any of the skill sets described if they are not developed and mastered at the age/grade appropriate time.

*Math:* In preschool and kindergarten children learn to recognize and to form numbers. During first and second grades, the student learns two key concepts: the concept of “base 10,” (numbers are understood in units of ten) and the concept of “conservation of numbers,” (you cannot create a number or make one disappear). Thus, the concepts of addition and subtraction. Beginning in third grade, multiplication, followed by division, is introduced. By fourth grade, fractions, decimals and additional matter are introduced. In middle school and high school these basic math concepts are used to learn higher-level math.

Preschool/kindergarten	Learn to recognize and to form numbers.
First/second grades	Learn concept of “base 10.” Learn concept of “conservation of numbers,” leading to addition and subtraction.
Third/fourth grades	Learn multiplication and division. Learn fractions, decimals, and more.
Middle/high school	These basic skills are applied to learn higher-level math.

Thus, a math disability might involve any of the skill sets described if they are not developed and mastered at the age/grade appropriate time. Since math skills must be mastered before higher-level skills can be learned, weaknesses in the basic skills taught in elementary school can result in significant difficulties with the higher-level math taught later.

Starting in fifth grade and beyond, a new set of skills develop that go beyond mastery of reading, writing, and math. These are called executive function skills. They are expected by middle school and absolutely essential in high school. These skills involve the ability to organize and to plan time management. An executive function disorder might involve the inability to organize and carry out life tasks (described later as part of ADHD). These executive function skills are also essential for the student to organize what is read so that it can be retained (reading fluency), to retrieve and organize information needed to produce a written response (writing fluency), and to retrieve and process information needed to produce a math product (math fluency). Thus, difficulties in these areas might result in learning disabilities.

*Language disability.* A student with this disability might have difficulty quickly processing what is heard. Parents have to speak more slowly and get eye contact. Multiple instructions cannot be given. The child often misunderstands what is said. Some have difficulty when they speak. In a spontaneous situation where thoughts are organized before speaking, they do well. However, in a demand situation



where they have to answer a question or explain something, they struggle to get their thoughts organized or find the right words.

*Motor Disability.* A student with motor problems might have difficulty with fine motor planning (coloring, cutting, writing, buttoning, zipping, tying) and/or with gross motor planning (running, jumping). Some may have difficulty with visual-motor (eye-hand) activities required when doing certain visual spatial tasks or when catching or hitting a ball. In addition, this child might have difficulty with vestibular function, manifested by weak upper trunk muscles and possibly by difficulty learning to ride a bike. Finally, some may show tactile sensitivity: not liking to be held or cuddled or not liking cloths that are felt to be too rough. This total clinical picture of motor problems is called sensory processing disorder.

### *Suspecting a Learning Disability*

Parents might complain that their child or adolescent is doing poorly in school, getting bad grades, possibly acting out frustrations with inappropriate behaviors or by avoiding homework. This history is suggestive of a learning disability. A brief “systems review” can help you decide if more studies are needed. As in any systems review, the physician follows a logical set of questions based on known possible problems. Any positive answer leads to more in-depth questioning. A negative answer leads to the next general question.

### *Systems Review for Learning Disabilities*

Start with questions relating to basic skills.

*Reading.* Is reading something you like to do or have to do? How well do you read? Do you have trouble sounding out each word? Do you understand what you read? Do you ever skip words or lines or read the same lines twice? Do you get to the end of the page or chapter and not know what you have read? With older students, ask: Do you get papers back and find that you misread questions or instructions? Do you have problems with word problems in math?

*Writing.* How is your handwriting? Do you prefer to print or to use cursive? Do you find that you cannot write as fast as you are thinking? When you look at what you have written, do you see errors in spelling, grammar, punctuation, or capitalization? Can you copy material from the board fast enough? With older students, can you take notes as the teacher is talking? Can you write an organized paper with good thoughts?





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*Math.* Depending on grade level, ask whether the student understands what the teacher is doing. Does the student know the times tables? Does he or she make mistakes like writing "21" for "12" or putting numbers in the wrong column? Is there a problem with word problems?

Next, ask questions relating to the processing skills needed to learn.

*Sequencing.* When you speak or write, do you sometimes have difficulty getting everything in the right order? You might ask the child to name the months of the year. Then, ask what comes after May. Does she answer easily or does she need to go back to January and count forward? Ask whether she has difficulty using the dictionary and remembering the order of the alphabet.

*Abstraction.* Do you understand jokes when your friends tell them? Do you sometimes get confused when you hear something? Do people say that you did not understand what they said?

*Executive function.* What does your notebook look like? How about your binders and papers? Is everything falling out or in the wrong place? What about your desk? Backpack? Locker? Bedroom? Do you lose things or forget things? Do you do your homework but forget to turn it in? Do you have difficulty organizing your thoughts when you speak? When you write, do you have problems planning time so that things get done?

*Memory.* Do you find that you can learn something at night and then go to school the next day and forget what you learned? Do you learn best by listening to people or by reading?

### *Diagnosis of a Learning Disability*

The traditional model for assessing for a learning disability involves doing a battery of testing called a **psychoeducational evaluation**. (Some professionals might prefer to do a **neuropsychological evaluation**.) An alternative model for assessing for a learning disability was introduced as part of the most recent revisions of the Federal Education Law (IDEA). It is called the, "Response to Intervention" model. Each will be briefly described.

### *The Psychoeducational Evaluation*

There are three parts to these studies. First is an IQ test. Of importance is the student's intellectual potential plus any inconsistencies between each part of the test. Next is a battery of achievement tests to clarify where the student's academic skills are. Finally, a test or group of tests looks at processing abilities or disabilities. These combined data usually clarify whether the individual has an LD, and if so, where the problems as well as the strengths are. The results will also clarify the best interventions to use.



### *The Response to Intervention Model*

If a student is observed to be struggling with mastery of expected academic skills, the general education teacher identifies the student as having difficulty and initiates the first response to intervention by using different approaches (with fidelity) to help, and by conducting progress monitoring to ensure student success. If these efforts do not work, a second level of response is initiated, generally through a school-based team meeting process, where a reading or mathematics specialist (previously known as remedial teachers) is assigned to provide more service to the student, again with fidelity, over time, with progress monitoring. Should the student not respond to this, a third level of intervention is initiated through a committee on special education process, where the school-based team documents efforts. At this level, if there is an absence of progress despite strong teaching and intervening, the student may be classified as having a learning disability. At this point the student may be placed in a special education program for further help. (It is understood that before the student moves into this third level of intervention, studies will be done to clarify which difficulties the student has and what interventions would be best to use.)

A school system might choose either approach. If testing is done, a discrepancy model is used to determine if the student is eligible to receive services because of a learning disability. That is, the student must have a specific degree of discrepancy between intellectual ability and performance. Thus, a student might have processing problems (a learning disability) but not be eligible for services because he or she is “not far enough behind to qualify.” When this happens, parents may have to find someone outside the school system to do the assessment. If a student's difficulties are addressed through the Response to Intervention model and if efforts by the general education teacher and the intervention team are not successful, as demonstrated through data collected over time, the student might be identified for special education services.

If psychoeducational testing is recommended, should arrange to have their school psychologist or school-based team conduct the evaluation. To facilitate this action, write a report explaining why your clinical findings suggest an LD. Have the parents give this report to the principal of their neighborhood school with their own letter requesting the testing. The principal should activate a meeting of school professionals to decide whether they agree to do such testing. If they agree, the testing is done. If they do not, you might advise the parents to appeal this decision or to get the testing done privately.



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### *Interventions*

We do not know how to rewire the brain. Thus, the goal is habilitation. Professionals trained in areas of special education work on learning disabilities. Speech-language therapists work on language disabilities. Occupational therapists help with motor disabilities. These services should be provided by the school system either within general education or in a special education program.

These interventions attempt to remediate those disabilities that can be improved by using specific approaches and to help the student develop compensatory strategies. In addition, it is essential that general education teachers know how to develop accommodations in the curriculum, teaching method, and environment so that the student can succeed using his abilities rather than be penalized because of his disabilities. Parents will also need to learn what accommodations they should provide when helping with homework.

As with any other disorder, parents need to be educated. It is important to explain what LD is. Parents can be referred to organizations or reading materials that will help. (See Appendix.)

### *Legal Rights of Parents*

The federal law, The Individuals with Disabilities Education Act (IDEA), requires schools to recognize students who might be having difficulty. These students are to be screened. If problems are found, students are to be tested. Following the testing, a team of professionals meets to see whether the student meets the criteria to be eligible for identification as having a learning disability and, thus, eligible for services. Parents are to be part of each step of these processes.

If a student qualifies, the school professionals develop an Individualized Education Program (IEP) and present it to the parents. This plan identifies the areas of difficulty, how each will be addressed, and how progress will be measured. If parents agree and sign this IEP, the plan is put into place.

Often parents need help in understanding their child's or adolescent's needs and their rights under IDEA. They may need an advocate to help. If the family physician cannot provide this help, it is important to know where to refer parents to get such help. One such source of course is LDW®.



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

### ***Definition***

Individuals with ADHD might be hyperactive, inattentive/distractible, and/or impulsive. It is important to understand that anxiety, depression, obsessive-compulsive disorder, or learning disabilities might result in behaviors that look the same. So, how is the diagnosis established? With anxiety, depression, obsessive-compulsive disorder, or learning disabilities, the history obtained may suggest that the behaviors began at a certain time (maybe first grade) and occur in specific situations (seen in school but not at home). ADHD is something the child or adolescent is born with; thus the history is both chronic and pervasive: chronic in that the brain has been wired differently since birth—parents describe these behaviors since early childhood, into preschool, and school; pervasive in that the brain is always with the child—parents complain of the behaviors, preschool teachers complain, grade school teachers complain, etc. And teachers describe the behaviors parents, sports coaches, piano teachers, Sunday school teachers, and scout leaders.

There are three subtypes of ADHD. Those who have all three behaviors are called ADHD/Combined Type. Those with only inattention/distractibility are called ADHD/Inattentive Type. And, those who are hyperactive and impulsive are called ADHD/Hyperactive-Impulsive Type.

### ***Diagnosis of Attention Hyperactiviy Deficit Disorder***

The diagnosis of ADHD is based on the individual's meeting the requirements as described in DSM IV-TR. Since ADHD is a neurologically based disorder, the history should show a chronic and a pervasive history of the behaviors observed. Thus, if a parent comes into the office, saying that the teacher complains that the child can't sit still and pay attention, the diagnosis is not established. Do not reply by saying, "Why don't we try some medication to see if it helps?" *It is essential to get a full clinical and developmental history before establishing any other diagnosis or starting any other treatment.* Have the described behaviors been present since a young age? Are they present in most settings?

The diagnostic manual and professional guidelines require the presence of one or more of these three behaviors. Then, there must be evidence suggesting that they existed before age six and that they impact two or more areas of the individual's life (home, school, peers). That is, one must establish that the presenting behaviors have a chronic and pervasive history.



The **first step** is to confirm the presence of one or more of the three behaviors. Some professionals use rating scales or questionnaires to get the information. Most physicians obtain the information by discussing the problem with parents and by getting descriptive information from teachers. Observations in the office may not be helpful. Children might be anxious and thus fidgety, or they might be hyper-alert and over-focused because they are concerned about what will happen next.

What is meant by these terms? *Hyperactivity* does not have to mean the child is running wild. More commonly, the younger child shows squirmy, fidgety behavior. She is up and down and wiggling in the chair. Older children and adolescents might be better able to sit, although their knees might be going up and down. However, they drum on the desk with their fingers, fidget with items, play with things.

Traditionally, pediatricians think of *distractibility* as the inability to block out unimportant stimuli so that they will not compete for the child's attention. In DSM IV-TR, this concept is expanded to include the concepts of executive function more than distractibility. Thus, the criteria for identifying a child as being inattentive focus on difficulties relating to attending to details, making careless mistakes with schoolwork, not following through on instructions or homework, difficulty organizing tasks and activities, losing things.

*Impulsivity* refers to difficulty thinking before talking or acting. The impulsive child or adolescent has difficulty stopping to think before speaking and possibly before acting. They interrupt, call out, say things before they think. Or they might dart out into the street, walk off in a shopping mall, or climb too high up tall trees.

The **second step**, because it is easiest to do, is to explore whether the described behaviors are pervasive. Find out about school and home. Then, ask about activities, sports, and peer interactions. The behaviors should be a problem in most settings.

The **third step** is to clarify that these behaviors have a chronic history of being a problem. Start with the early years of life, then preschool, then elementary school, etc.

ADHD is considered to be a medical diagnosis. Thus, if a physician establishes a chronic and pervasive history of one or more combinations of these three behaviors, the diagnosis is established. Psychological testing, computerized testing, rating scales, parent questionnaires provide important clinical information; however, these results show only that certain behaviors exist. It remains critical to establish a chronic and pervasive pattern before the diagnosis can be made. Teachers and other school professionals might suggest ADHD. Only a physician can make the diagnosis.



## *Treatment*

ADHD is the result of a neurochemical deficiency within specific circuits of the brain. The transmitter is norepinephrine or one of its precursors, DOPA or Dopamine. The primary treatment intervention is to use one of a group of medications that increase the amount of this transmitter at the nerve endings in these circuits. Once the level of the transmitter is where it should be, the behaviors significantly decrease or stop. Once the medication wears off, the transmitter level drops and the behaviors return. It is beyond the scope of this booklet to discuss the many medications available to treat ADHD. (References are noted in Appendix.)

In addition to prescribing medication, it is important to educate both the individual with ADHD and the parents about ADHD. Consider providing information or organizations or reading materials that will provide more information. (See Appendix.) Also, explore the possibility that the child or adolescent has other emotional or social problems or that the family is not functioning well. This combined approach of education and counseling along with appropriate medication works best. It is also necessary to work with the school system. Teachers and other staff need to know what medications are being used, what to look for to show that these medications are working, and what side effects to watch for. This teacher input is critical to select the best medication and to adjust the dosage and timing.

Special accommodations might be needed. ADHD is not specifically covered under IDEA. It can be listed under the category, “Other Health Impaired.” Another option for requesting accommodations is to use the American’s With Disabilities Act. Section 504 of this law states that if an individual has a disability, accommodations must be provided within an education setting. Thus, many schools will set up a “504 Plan” to provide the necessary accommodations. Provide parents with the written documentation to request such a plan.



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## Related Disorders

About 30 to 50 percent of students with ADHD also have a learning disability.

Thus, if a physician diagnoses a child with ADHD, it is critical to ask about learning problems. There are other related disorders that are frequently found together. Some of these problems might be secondary to the LD and/or ADHD. Some might relate to social problems. And some might be another reflection of a dysfunctional nervous system.

### *Secondary Problems*

Some students will have problems secondary to the frustrations and failures experienced in school and in life. They might have a poor self-image and low self-esteem. Some become anxious or sad, and others act out their frustrations with inappropriate or aggressive behaviors. Thus, when a child is struggling academically and has a behavioral problem, it is critical to decide whether the emotional and behavioral problems are causing the academic difficulties or whether these problems are a consequence of the academic problems and the resulting frustrations and failures. It is so easy to blame the victim and say that the child is doing poorly in school because of his behaviors. It is critical to determine whether this child has a primary emotional problem causing the academic difficulties or whether the child has unrecognized and unaddressed learning disabilities and/or ADHD with resulting secondary emotional problems. The treatment approach for each is totally different.

### *Social Problems*

Another related problem is difficulty with social skills, resulting in poor social abilities. The child or adolescent does not read social cues. He speaks too loudly or gets too close. She does not realize that her behavior is annoying others. For some, these problems might reflect the LD (visual-spatial problems resulting in poor skills when playing sports or a language disability resulting in difficulty communicating and social shyness). Others might have difficulties because they are in different classes from those of their peers or they are being teased for being in special classes or for not knowing how to read.

For some children, the social problems are a result of the frustrations and failures experienced in school and with peers. However, for others, the social skill problems are another reflection of a dysfunctional nervous system. These problem areas are called “Pragmatic Social Skill Problems.” These individuals have an inability to read visual or auditory social cues. They might not be able to read the look on a face, body posture, or tone of voice and react accordingly.



Social skill groups can be helpful. Parents need to learn to find activities and sports that use the child's strengths rather than expose weaknesses. (Discussed in *Misunderstood Child*. See Appendix.)

### ***Comorbid Neurologically Based Disorders***

As noted earlier, 30 to 50 percent of students with learning disabilities might also have ADHD. There are other comorbid, neurologically based conditions. These clinical problems relate to the brain's ability to regulate or modulate emotions and behaviors. Thus, we find that many students with ADHD and/or LD might also have "regulatory problems." They might have difficulty modulating anxiety, resulting in an anxiety disorder; some might also have a panic disorder. Others might have difficulty modulating mood and have a depressive disorder. Still others might have difficulty modulating anger and show explosive angry outbursts (intermittent explosive disorder). Some have difficulty modulating thoughts and behaviors and have obsessive-compulsive disorder. Finally, some have difficulty modulating motor behaviors and develop tic disorders. In addition, some students may have bipolar disorder. This is often seen as a mood disorder, rather than a regulatory disorder.

Thus, comorbidity studies show that there is a continuum of neurologically based disorders that are often found together. Each has a chronic and a pervasive pattern, unlike those problems resulting from specific life situations that occur at a certain time in life or in certain situations. Often, there is a strong family history for each disorder. This continuum includes learning disabilities, language disabilities, motor disabilities, ADHD, anxiety disorders, depression, anger control problems (intermittent explosive disorder), obsessive-compulsive disorder, tic disorders, (and a related disorder, bipolar disorder). If any one of these disorders is diagnosed, it is important to explore the possible presence of the others. A quick systems review of emotional and behavioral problems will flag whether further assessment is needed by a mental health professional.

The treatment for the cortical problems (learning, language, motor) is habilitation. The treatment for ADHD is the use of medications that correct the deficiency of norepinephrine in specific circuits in the brain. The treatment for the regulatory disorders is often the use of medications that correct the deficiency of serotonin in other specific circuits of the brain. With each, individual and family education and appropriate clinical interventions are necessary.





## **In Summary**

Academic and attentional problems result in school problems. They also impact the emotional status of the child or adolescent and the functioning of the family. Not uncommonly, there are also social problems. The consequences are serious and dysfunctional for the individual and the family. As with any other medical disorder, the price of missing the diagnosis and, thus, delaying treatment is significant and can have an impact throughout the person's life.

It is critical for the primary care physician to be aware of these disabilities and to know how to screen for their possible presence. Once such disabilities are suspected, a more detailed review should clarify whether further studies are needed. Once the disorder is diagnosed, appropriate treatment must be started and monitored.



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## Appendix

### *Books by Larry B. Silver, M.D.*

Silver, L. B. (2006). *The Misunderstood child: Understanding and coping with your child's learning disabilities* (4<sup>th</sup> ed.). New York: Random House/Three Rivers Press.

Silver, L. B. (2004). *Attention Deficit-Hyperactivity Disorder: A clinical guide to diagnosis and treatment for health and mental health professionals* (3<sup>rd</sup> ed.). Washington, D.C.: American Psychiatric Press, Inc.

Silver, L. B. (1999). *Dr. Larry Silver's advice to parents on Attention Deficit Hyperactivity Disorder* (2<sup>nd</sup> ed.). New York: Random House/Times Books.

Silver, L. B., & Silver, D. L. (2010). *Guide to learning disabilities for primary care*. Elk Grove Village, Illinois: American Academy of Pediatrics.

### *Recommendations From the LDW® Store*

#### *Environmental Hazards and Learning Disabilities*

A CD for parents, medical professionals and all those concerned with environmental hazards and the possible risk of learning disabilities.

#### *The Pediatrician and the Child With Learning Disabilities*

Pediatric primary care providers are often confronted with children whose school performance is disappointing. Could it be a learning disability? This audio CD ROM brings three perspectives to this important question.

#### *Learning Disabilities: A Contemporary Journal (LDCJ)*

Distributed to over 24,000 subscribers, *LDCJ* is a peer-reviewed forum for research, practice, and opinion regarding learning disabilities (LD) and associated disorders. The mission of the journal is to provide the most up-to-date, accurate information on diagnosis, management, and intervention. The journal intends to support, inform, and challenge researchers, practitioners, and individuals who have, or care for those who have, learning disabilities. The selections of the journal will be of particular interest to those involved in academia, medicine, education, psychology and related fields.



### *Thank You*

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