DYSLEXIA AWARENESS

QUESTIONS ABOUT DYSLEXIA
- What is dyslexia?
- What does the newest research tell us?
- How prevalent is dyslexia?
- How does dyslexia affect children?
- How important is early intervention?
- What are the specific clues/signs of dyslexia?
- What are the related disorders?
- What is the role of accommodations?
- Resources for more information

WHAT IS DYSLEXIA?
"Dyslexia is difficulty with language. For people with dyslexia, intelligence is not the problem. The problem is language. They may have difficulty with reading, spelling, understanding language they hear, or expressing themselves clearly in speaking or in writing. An unexpected gap exists between their potential for learning and their school achievement. Individuals with dyslexia often have a wide range of talents, for example, in art, drama, math, or sports, yet they may have difficulty remembering things or organizing themselves. No two people with dyslexia are alike. Each has individual strengths and weaknesses. As an example, some may have difficulty with reading and spelling. Some may have difficulty with speaking clearly or have problems with handwriting. Others may have difficulty knowing right from left or before from after. Some may have additional problems, such as attentional problems." -from IDA Basic Facts About Dyslexia - Layperson

“We know why dyslexics, no matter how bright and motivated, experience reading difficulties. Dyslexia is a complex problem that has its roots in the very basic brain systems that allow man to understand and express language. By discovering how a disruption in these fundamental neural circuits., we have been able to understand how the tentacles of the disorder reach out from deep within the brain and affect not only how a person reads but surprisingly, a range of other important functions as well, including the ability to spell words, to retrieve words, to articulate words, and to remember certain facts." -from Overcoming Dyslexia

“Research pinpoints the weakness at the lowest level of the language system. The phoneme is the fundamental element of the language system, the essential building block of all spoken and written words...the smallest unit of speech that distinguishes one word from another…In children with dyslexia, the phonemes are less well developed…Dyslexic children...have difficulty developing an awareness that spoken and written words are comprised of these phonemes or building blocks.” -from Overcoming Dyslexia

“One of the most enduring misconceptions is that dyslexic children see letters and words backwards and that reversals (writing letters and words backward) are an invariable sign...there is no such evidence..." -from Overcoming Dyslexia
WHAT DOES THE NEWEST RESEARCH TELL US?
"Imaging (MRI) studies revealed markedly different brain activation patterns in dyslexic readers compared to those in good readers. As they read, good readers activate the back of the brain and also, to some extent, the front of the brain. In contrast, dyslexic readers show a fault in the system: under activation of neural pathways in the back of the brain. Consequently, they have initial trouble analyzing words and transforming letters into sounds, and even as they mature, they remain slow and not fluent readers...These remarkable (MRI) images provide concrete evidence of the physical reality of their reading difficulty...the classic dyslexic, is born with a glitch in his posterior (brain) reading systems." -from Overcoming Dyslexia

HOW PREVALENT IS DYSLEXIA?
"We now know that dyslexia affects one out of every five children-ten million in America alone." -from Overcoming Dyslexia

"Although research is ongoing and some results vary, the National Institutes of Health and other reputable agencies estimate that between 10 and 15% of the men, women and children in this country are dyslexic. Some people may have severe problems in several areas, such as reading, spelling, remembering, listening, and sequencing. Other people may have less severe or even mild difficulty in just one or two areas."-from IDA Basic Facts about Dyslexia-layperson

"About 15-20% of the population is dyslexic to a moderate degree. About 2 to 5% of the population has severe, long-lasting reading disabilities that require specialized instruction."-from IDA Basic Facts about Dyslexia-professional

"The impairments of dyslexia range from subtle to severe. Dyslexia is a lifelong, intrinsic condition that is modified by instruction."-from IDA Basic Facts about Dyslexia-professional

HOW DOES DYSLEXIA AFFECT CHILDREN?
"Most children look forward to learning to read and, in fact, do so quickly. For dyslexic children, however, the experience is very different: For them, reading, which seems to come effortlessly for everyone else, appears to be beyond their grasp. These children, who understand the spoken word and love to listen to stories, cannot decipher the same words when they are written on a page. They grow frustrated and disappointed. Teachers wonder what they or the child might be doing wrong, often misdiagnosing the problem or getting bad advice."- from Overcoming Dyslexia

"Dyslexia inflicts pain. It represents a major assault of self-esteem. In grade school children, this may be expressed as a reluctance to attend school or moodiness or spoken expressions such as "I'm dumb" or "I get teased a lot... For many affected children dyslexia has extinguished the joys of childhood."-from Overcoming Dyslexia

"The greatest stumbling block preventing a dyslexic child from realizing his potential and following his dreams is the widespread ignorance about the true nature of dyslexia."-from Overcoming Dyslexia

"Generally, dyslexic readers require many more exposures to a printed words over a much longer period of time before the stored representations are clear and true to the printed word... As a result, even when dyslexic readers are able to decode words accurately, they are still not quick in their reading of these words. The phonologic weakness clearly affects not only learning to read but also the ability of dyslexic readers to become skilled readers."-from Overcoming Dyslexia.

"As..(the) child progresses through third and higher grades, your focus shifts from wondering if she is learning to read to wanting to know if she is learning to read a critical core of words fluently...They must devote their full concentration to decoding words instead of attending to issues of comprehension. Reflecting the lack of fluency, they read slowly-a hallmark of dyslexia. Fluency is what binds a reader to the text." -from Overcoming Dyslexia
HOW IMPORTANT IS EARLY INTERVENTION?

"Once a pattern of reading failure sets in, many children become defeated, lose interest in reading, and develop what often evolves into a lifelong loss of their own sense of self-worth." -from Overcoming Dyslexia

"The apparent large-scale under identification of reading-disabled children is particularly worrisome because even when school identification takes place, it occurs relatively late-often past the optimal age for intervention. Dyslexic children are generally in the third grade or above when they are first identified by their schools; reading disabilities diagnosed after third grade are much more difficult to remediate. Early identification is important because the brain is much more plastic in younger children and potentially more malleable for the rerouting of neural circuits." -from Overcoming Dyslexia

"...once a child falls behind he must make up thousands of unread words to catch up to his peers who are continuing to move ahead." -from Overcoming Dyslexia

"The key to success and to avoiding much of this frustration is to recognize dyslexia as early as possible, even before a child is expected to begin to read. It is now possible to diagnose dyslexia reliably in children at the cusp of school entry." -from Overcoming Dyslexia

"Reading problems are not outgrown, they are persistent. Without identification and proven interventions, virtually all children who have reading difficulties early on will still struggle with reading when they are adults." -from Overcoming Dyslexia

"The three key research conclusions that support seeking help early are:

- 90% of children with reading difficulties will achieve grade level in reading if they receive help by the first grade.
- 75% of children whose help is delayed to age nine or later continue to struggle throughout their school careers.
- If help is given in 4th grade, rather than in late kindergarten, it takes four times as long to improve the same skills by the same amount." From Straight Talk about Reading by Susan Hall and Louisa Moats

"If we elect not to evaluate a child and that child later proves to have dyslexia, we cannot give those lost years back to him. The human brain is resilient, but there is no question that early intervention and treatment bring about more positive change at a faster pace than an intervention provided to an older child. And then there is the erosion of self-esteem that accrues over the years as a child struggles to read." From Overcoming Dyslexia

WHAT ARE THE SPECIFIC CLUES/SIGNS OF DYSLEXIA

"The specific signs of dyslexia...will vary according to the age and educational level of that person... The key is knowing how to recognize them at different periods during development." -from Overcoming Dyslexia

"Look for clues in the weaknesses and strengths...The symptoms must be...a persistent pattern." -from Overcoming Dyslexia

"What begins as a problem with speech sound awareness, letter recognition, or verbal expression becomes a problem with sounding out new written words, acquiring a sight vocabulary, recalling basic spellings, and producing written compositions. The disorder in older students often causes slow and inaccurate reading, poor spelling, disorganized writing, and difficulty in learning foreign languages." -from Overcoming Dyslexia

(All clues below are taken from Overcoming Dyslexia unless noted)
**IN EARLY CHILDHOOD**
The earliest clues involve mostly spoken language. The very first clue to a language (and reading) problem may be delayed language. Once the child begins to speak, look for the following problems:

**The Preschool Years**
- Trouble learning common nursery rhymes such as "Jack and Jill" and "Humpty Dumpty"
- A lack of appreciation of rhymes
- Mispronounced words; persistent baby talk
- Difficulty in learning (and remembering) names of letters
- Failure to know the letters in his own name
- Difficulty learning to talk*
- Difficulty pronouncing words correctly or expressing ideas clearly*
- Difficulty listening and following directions*
- Difficulty remembering names, symbols, or lists*

**Kindergarten and First Grade**
- Failure to understand that words come apart; for example, that *batboy* can be pulled apart into *bat* and *boy*, and, later on, that the word *bat* can be broken down still further and sounded out as: "b" "aaaa" "r"
- Inability to learn to associate letters with sounds, such as being unable to connect the letter *b* with the "b" sound
- Reading errors that show no connection to the sounds of the letters; for example, the word *big* is read as *goat*
- The inability to read common one-syllable words or to sound out even the simplest of words, such as *mat, cat, hop, nap*
- Complaints about how hard reading is, or running and hiding when it is time to read
- A history of reading problems in parents or siblings.
- Difficulty in learning the alphabet*
- Difficulty sequencing and/or forming letters or numbers*
- Difficulty learning to read, write, and spell*
- Poor sense of time or space, before and after, left and right, months and days*
- Messy handwriting*
- Skips words in a sentence and doesn’t stop to self correct**
- Can’t remember words-sounds out the same word every time it occurs on the page**
- Frequently guesses at unknown words rather than sound them out**

**In addition to the problems of speaking and reading, you should be looking for these indications of strengths in higher-level thinking processes:**
- Curiosity
- A great imagination
- The ability to figure things out
- Eager embrace of new ideas
- Getting the gist of things
- A good understanding of new concepts
- Surprising maturity
- A large vocabulary for the age group
- Enjoyment in solving puzzles
- Talent at building models
- Excellent comprehension of stories read or told to him
FROM SECOND GRADE ON

Problems in Speaking

- Mispronunciation of long, unfamiliar, or complicated words; the *fracturing* of words—leaving out parts of words or confusing the order of the parts of words; for example, *aluminum* becomes *amulium*
- Speech that is not fluent—pausing or hesitating often when speaking, lots of *um*’s during speech, no glibness
- The use of imprecise language, such as vague references to *stuff or things* instead of the proper name of an object
- Not being able to find the exact word, such as confusing words that sound alike: saying *tornado* instead of *volcano*, substituting lotion for ocean, or *humidity* for *humidity*
- The need for time to summon an oral response or the inability to come up with a verbal response quickly when questioned
- Difficulty in remembering isolated pieces of verbal information (rote memory) — trouble remembering dates, names, telephone numbers, random lists

Problems in Reading

- Very slow progress in acquiring reading skills
- The lack of a strategy to read new words
- Trouble reading *unknown* (new, unfamiliar) words that must be sounded out; making wild stabs or guesses at reading a word; failure to systematically sound out words
- The inability to read small "function" words such as *that, an, in*
- Stumbling on reading multisyllable words, or the failure to come close to sounding out the full word
- Omitting parts of words when reading; the failure to decode parts within a word, as if someone had chewed a hole in the middle of the word, such as *conible* for *convertible*
- A terrific fear of reading out loud; the avoidance of oral reading
- Oral reading filled with substitutions, omissions, and mispronunciations
- Oral reading that is choppy and labored, not smooth or fluent
- Oral reading that lacks inflection and sounds like the reading of a foreign language
- A reliance on context to discern the meaning of what is read
- A better ability to understand words *in context* than to read *isolated* single words
- Disproportionately poor performance on multiple choice tests
- The inability to finish tests on time
- The substitution of words with the same meaning for words in the text he can’t pronounce, such as car for automobile
- Disastrous spelling, with words not resembling true spelling; some spellings may be missed by spell check
- Trouble reading mathematics word problems
- Reading that is very slow and tiring
- Homework that never seems to end, or with parents often recruited as readers
- Messy handwriting despite what may be an excellent facility at word processing—nimble fingers
- Extreme difficulty learning a foreign language
- A lack of enjoyment in reading, and the avoidance of reading books or even a sentence
- The avoidance of reading for pleasure, which seems too exhausting
- Reading whose accuracy improves over time, though it continues to lack fluency and is laborious
- Lowered self-esteem, with pain that is not always visible to others
A history of reading, spelling, and foreign language problems in family members.

In addition to signs of a phonologic weakness, there are signs of strengths in higher-level thinking processes:

- Excellent thinking skills: conceptualization, reasoning, imagination, abstraction.
- Learning that is accomplished best through meaning rather than rote memorization.
- Ability to get the "big picture".
- A high level of understanding of what is read to him.
- The ability to read and to understand at a high level overlearned (that is, highly practiced) words in a special area of interest; for example, if his hobby is restoring cars, he may be able to read auto mechanics magazines.
- Improvement as an area of interest becomes more specialized and focused, when he develops a miniature vocabulary that he can read.
- A surprisingly sophisticated listening vocabulary.
- Excellence in areas not dependent on reading, such as math, computers, and visual arts, or excellence in more conceptual (versus factoid-driven) subjects such as philosophy, biology, social studies, neuroscience, and creative writing.

**IN YOUNG ADULTS AND ADULTS**

Problems in Speaking:

- Persistence of earlier oral language difficulties.
- The mispronunciation of the names of people and places, and tripping over parts of words.
- Difficulty remembering names of people and places and the confusion of names that sound alike.
- A struggle to retrieve words: "It was on the tip of my tongue".
- Lack of glibness, especially if put on the spot.
- Spoken vocabulary that is smaller than listening vocabulary, and hesitation to say aloud words that might be mispronounced.

Problems in Reading:

- A childhood history of reading and spelling difficulties.
- Word reading becomes more accurate over time but continues to require great effort.
- Lack of fluency.
- Embarrassment caused by oral reading: the avoidance of Bible study groups, reading at Passover seders, or delivering a written speech.
- Trouble reading and pronouncing uncommon, strange, or unique words such as people's names, street or location names, food dishes on a menu (often resorting to asking the waiter about the special of the day or resorting to saying, "I'll have what he's having," to avoid the embarrassment of not being able to read the menu).
- Persistent reading problems.
- The substitution of made-up words during reading for words that cannot be pronounced—for example, metropolitan becomes mitan—and a failure to recognize the word metropolitan when it is seen again or heard in a lecture the next day.
- Extreme fatigue from reading.
- Slow reading of most materials: books, manuals, subtitles in foreign films.
- Penalized by multiple-choice tests.
- Unusually long hours spent reading school or work-related materials.
- Frequent sacrifice of social life for studying.
- A preference for books with figures, charts, or graphics.
- A preference for books with fewer words per page or with lots of white showing on a page.
- Disinclination to read for pleasure.
Spelling that remains disastrous and a preference for less complicated words in writing that are easier to spell

**Signs of Strengths in Higher-Level Thinking Processes**
- The maintenance of strengths noted in the school-age period
- A high learning capability
- A noticeable improvement when given additional time on multiple-choice examinations
- Noticeable excellence when focused on a highly specialized area such as medicine, law, public policy, finance, architecture, or basic science
- Excellence in writing if content and not spelling is important
- A noticeable articulateness in the expression of ideas and feelings
- Exceptional empathy and warmth, and feeling for others
- Success in areas not dependent on rote memory
- A talent for high-level conceptualization and the ability to come up with original insights
- Big-picture thinking
- Inclination to think out of the box
- A noticeable resilience and ability to adapt

**WHAT ARE THE RELATED DISORDERS?**
- Dysgraphia—“a writing disability in which a person finds it hard to form letters, produce sustained and legible handwriting, and translate language into the handwritten form.”
- Dyscalculia—“a mathematical disability in which a person has a difficult time calculating accurately and quickly, solving arithmetic problems, or grasping math concepts

**WHAT IS THE ROLE OF ACCOMMODATIONS?**
“For many children, accommodations represent the difference between academic success and failure, between a growing sense of self-confidence and an enduring sense of defeat.”-from *Overcoming Dyslexia*

“By themselves accommodations do not produce success; they are the catalyst for success. Accommodations grow in importance as a dyslexic progresses in his schooling. As he advances, his strengths mature in thinking, reasoning, vocabulary, and analytic skills; at the same time his academic challenges increase. Consequently, it becomes even more crucial for the dyslexic reader to access his strengths in order to bypass his phonologic weakness.”-from *Overcoming Dyslexia*

“Once a child is expected to write, to complete time-consuming class or homework assignments, and to take standardized tests, consideration should be given to providing accommodations.”- from *Overcoming Dyslexia*
RESOURCES FOR MORE DYSLEXIA INFORMATION

Books-
- Overcoming Dyslexia - by Sally Shaywitz
- Straight Talk About Reading - by Susan Hall and Louisa Moates
- Parenting a Struggling Reader - by Susan Hall and Louisa Moates
- The Dyslexic Scholar by Kathleen Nosek
- All Kinds of Minds by Dr. Mel Levine
- Taking Charge of ADHD by Russell Barkley
- How to Reach and Teach Children and Teens with Dyslexia by Cynthia M. Stowe

Websites-
- National Center for Learning Disabilities www.ncld.org
- Academic Language Therapy Association www.ALTAread.org (972) 233-9107 ext. 20
- International Dyslexia Association http://www.interdys.org
- Learning Disabilities of America www.ldaamerica.us
- Houston area Branch of the International Dyslexia Association- Select FAQ’s www.houstonida.org
- LD Online www.ldonline.org
- Schwab Foundation for Learning http://www.schwablearning.org
- Texas Education Agency http://www.tea.state.tx.us
- Wright’s Law www.wrightslaw.com

Testing and Evaluation for Dyslexia-
- Scottish Rite Hospital- Luke Waites Center 214-559-5000
- SMU-Diagnostic Center for Dyslexia and Related Disorders 972-473-3446 - Contact Terri Zerfas. www.smu.edu/teacher_education/reading/learningtherapy.asp
- Shelton School – Dallas, TX 972-774-1772 www.shelton.org