**Financial Disclosure**

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**Chief Complaint: “Tracking Problem”**

**What Should I Do?**

- Struggling with reading
- Poor Phonics
- Math much easier (except word problems)
- Skips words and lines
- Losing confidence
- Teacher thinks it’s the eyes, recommends exam
- Been told that he has a “tracking problem”
- A friend mentioned vision therapy
- Now what??

**Your Patient**
**Complaints Might Include:**
- Routine exam - (no complaints)
- Difficulty seeing or copying off the board
- Problems seeing small print
- Blurred or moving print
- Headaches
- Trouble learning to read

**The Teacher Observes**
- Difficulty reading (not at grade level)
- Slow choppy reading
- Skipping words and lines
- Reversing letters and words
- Poor spelling
- Poor handwriting
- Writing backwards

**History**
- How is school going?
- Which is easier, math or reading?
- Is sounding out words difficult?
- Are there any problems reading?
- Does he/she like to read?
- Have any family members had reading difficulties?

**Early Warning Signs of Dyslexia in Preschool**
- Family history
- Speech delay
- Speech articulation problems
- Trouble hearing sounds in words
- Difficulty with rhymes
- Confusing words that sound alike
- Word retrieval difficulties

**Dyslexia - Signs in School-Age Children**
**Difficulty with:**
- Learning the names of the letters
- Learning the sounds of the letters
- Separating & blending the sounds
- Sounding out words
- Sight word recognition

**Problems with:**
- Fluent reading
  - Slow and choppy reading
  - Reversing letters and words
  - Adding, dropping, changing words, skipping lines
- Reading comprehension
- Spelling
Here’s How Parents Feel

The Ophthalmologist’s Role

Ophthalmologists are often asked to evaluate children with learning and reading problems

Children who have suspected learning or reading difficulties should be evaluated for the possibility that vision problems are interfering with their learning

Keep in Mind

Keep in mind that a certain percentage of these children have already spent a significant amount of time with a vision therapist and/or on chat rooms/forums etc. and will not be receptive to your exam or science

Vision Problems in Children

Visual problems occur in 5 - 10% of elementary students and up to 25% of high school students

Some of these may interfere with learning

Refractive errors

Symptomatic convergence insufficiency

True accommodative Insufficiency

Components of the Pediatric Eye Exam For Reading Difficulties

VA Distance & Near

Stereopsis

Convergence:

NPC

Convergence Amplitude

Ability to sustain convergence

Accommodation

NPA

Dynamic Retinoscopy

Accommodative Amplitude

Accommodative Facility

Ocular Alignment & Motility

External Ocular & Dilated Retinal examination

Cycloplegic Refraction
You Should Recognize That:

- Healthy children often have visual complaints that arise from awareness of normal visual phenomena, such as physiologic diplopia, or relaxation of accommodation.
- Most children with eyestrain and headaches have a normal eye exam.
- Children with reading difficulties, whose eyes function normally, may present with visual symptoms.

If An Eye or Vision Problem is Detected:

- It can usually be treated with glasses and if it is the cause of the learning difficulties, then school performance will improve quickly.
- For the rare child with symptomatic convergence insufficiency, eye exercises will generally improve comfort within a few weeks.

Pediatric Eye Exam For Reading Difficulties:

- In addition to the eye examination.
- Have the child read a paragraph or a few short pages at their level.
  - Look for difficulties sounding out words.
  - Look for sight-word knowledge.
  - Look for smoothness or fluency.
- Then you can discuss this with the parent.

What is Reading?

Reading is the complex process of extracting meaning from written symbolic characters.

Reading Requires:

- Basics
  - Adequate VISION
  - Good working MEMORY
  - Ability to sustain ATTENTION
  - Good ORAL LANGUAGE skills
Oral Language Development

- Speaking develops naturally
- Pre-programmed into human brain development
- Foundation for reading

Reading, an Acquired Skill

- Requires active learning
- Not pre-programmed into human brain
- Reading is more difficult than speaking

Reading Requires

- Very specific skills
  - Oral language comprehension
  - Phonologic awareness
  - Phonics
  - Phonemes
  - Rapid Autonomic Naming RAN
  - Orthographic processing

Reading Requires

- Very specific skills
  - Understanding the alphabetic principle
  - Decoding
  - Sight word recognition
  - Perception
  - Fluency
  - Comprehension

How We Read

- Aware of the sound structure - phonemes
- Break the alphabetic code - symbol
- Acquire the sound/symbol connection

This is the same dog turned in different directions
“Object Constancy” & “Mirror Invariance”
Orthographic Perception

- **Recognizing the features of letters and words**
  - **b**: This is nearly the same shape turned in different directions - creating 5 unique letters & 2 numbers
  - **g**: These are just lines and circles - devoid of linguistic meaning unless the child can use the phonetic code
  - **p**: A letter's orientation matters! Developmentally, this takes time to understand and remember.

How We Read - Phonemes

- **Phonemes are the smallest units of sound - used to form words**
  - **Speech - blended**
    - 8 - 10 phonemes are co-articulated / sec.
    - Learning to read and write - sound consciously separated
    - The word “cat” contains 3 phonemes

How We Read - Decoding/Phonics

- **To read, write, and spell English uses**
  - **Alphabetic system - letters**
    - represent an abstract building block of our language’s phonemes

How We Read - Fluency

- **Fluency**
  - Read connected text with expression rapidly, automatically
  - **Sight words**
    - Typical children require between 4 - 14 exposures to a new word to become a “sight-word”
    - Children with dyslexia may require 40 - 100 or more exposures
    - All irregular words need to be learned as a sight word

Is Decoding Difficult?

- A/a = A/a
- B/a = Y/c
- G/a = G/g
- D/a = D/d
- E/c = L/e
- H/a = I/i
- K/a = K/k
- M/a = M/on
- H/a = N/n

Из = Pen

Decoding is Very Difficult in English

- For some children the process of decoding is so laborious and time consuming that they are unable to comprehend what they are reading.
Learning to Read

Is rocket science!

Eye Functions Necessary to Read
And How to Test for Them

How We Read - Visual Functions

Vision is fundamental to reading
- Visual perception
- Visual acuity
- Accommodation
- Convergence
- Saccades
- Fixations

How We Read

- Higher cortical function
- Visual signals are decoded and interpreted in the brain
- Temporal lobe: phonological awareness
- Frontal lobe: speech, comprehension
- Angular gyrus: “reading integrator”

How We Read - Visual Acuity

- Significant refractive errors can interfere with vision and may require glasses
  - High hyperopia
  - High astigmatism
  - Myopia
  - Even people with severe visual impairment can learn to read

Latent Hyperopia

Patient: 6 yo, VA 20/25 ou c/o trouble reading in school

Manifest AR

<table>
<thead>
<tr>
<th>Manifest AR</th>
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<tbody>
<tr>
<td>+1.00 D sph</td>
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<tr>
<td>+1.00 D cyl</td>
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<tr>
<td>+1.00 D axis</td>
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Cycloplegic AR

<table>
<thead>
<tr>
<th>Cycloplegic AR</th>
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<tbody>
<tr>
<td>-1.00 D sph</td>
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<td>-1.00 D cyl</td>
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<tr>
<td>-1.00 D axis</td>
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</table>
Clinically Significant Refractive Errors

- **Bilateral refractive errors** - glasses recommended if:
  - Hyperopia
    - ≥ +3.00 D and near symptoms
    - ≥ +4.50 D
  - Astigmatism
    - ≥ +1.50 D
  - Myopia
    - ≥ -1.00 D
  - Anisometropia
    - ≥ 1.50 D

  Can cause blurred vision at near.

How We Read - Accommodation

- **Accommodation**
  - Children less than age 10 years can focus 1 inch from their nose.
  - Young children often hold books closely - especially when they are concentrating - BECAUSE THEY CAN.

Accommodation Testing

- NPA - tested monocularly
  - Push-up method
  - RAF or Prince Ruler

Accommodation Testing

- Accommodative amplitude - in phoropter
  - Manifest refraction then
  - At 13 inches, letters/words on ruler
  - Add (-) until blurry = Positive Relative Accommodation
  - Abnormal if <1.50 D
  - SHORT CUT - manifest refraction then
    - Add -2.00 at near and read near card

- Accommodative facility - in phoropter
  - Manifest refraction then
  - Add +1.50 and -1.50 alternately (use 3 diopter jumps)

Dynamic Retinoscopy

- **Normal subject**
  - Neutral reflex
  - With motion

- **Accommodative insufficiency**
  - With motion
  - Corrected with +3.00
Accommodative Insufficiency (AI)

Treatment can include:
- Treatment of underlying condition
- Glasses for latent hyperopia
- Reading glasses / bifocals
  - +1.00 or +2.00
- Observation

Near Point of Convergence

Use an accommodative target: letters or numbers on stick

Sustain Convergence

Convergence Amplitudes

- Base out prism bar
- Break
- Recovery

Convergence Insufficiency (CI)

- Diagnosis requires signs & symptoms
  - Exodeviation at near > distance
  - Decreased NPC
  - Difficulty maintaining convergence
  - Decreased convergence amplitude
  - Asthenopic symptoms

Symptoms

- Discomfort/HA with reading
- Blurry vision
- Double vision
- Can interfere with prolonged near work but not decoding
- Not all children with these complaints have CI

Important Facts

- Symptomatic CI in children is uncommon
- Frequently over-diagnosed
- May masquerade as ADHD or LD
- If Office-Based Therapy for CI has been proposed, Diagnosis must be confirmed
Symptomatic Convergence Insufficiency

Treatment Options:
- Orthoptic convergence exercises
  - Push-up exercises with accommodative targets
  - Maintaining convergence for 30 - 40 seconds
- Possibly base-in prism reading glasses

Eye Movements - Smooth Pursuit

- Smooth Pursuit
  - Slow eye movements
  - Smooth Pursuit is not involved in reading

Eye Movements - Smooth Pursuit

Saccades

Saccades are small jumping eye movements used in reading

How We Read - Saccades & Fixation

- Reading is a sequence of:
  - Saccades
    - Move eyes to next point of fixation
  - Fixations
    - Information is acquired during fixations
    - Fixations are 90% of reading time
    - Short words are read with one fixation
    - Longer words with two fixations

How We Read - Saccades

Mature reader:
- Forward saccades - 85% of saccades
  - Average length of adult saccade is eight letters
- Backward saccades - 15% of saccades
  - Half the distance of forward saccades
  - Used for verification & comprehension
  - Increase with difficulty of text
  - Used to jump to next line
How We Read - Saccades & Fixation

- Children, early or dyslexic readers
  - Show similar saccadic eye movement and fixation patterns
  - Saccades - 1/2 length of adult
  - More backward saccades than adult
  - Fixates; twice as long and twice as often

Eye movement differences between dyslexic and typical readers are the result, not the cause, of their dyslexia.

The saccadic pattern will “improve” as their reading ability improves.

“Training” saccades does not improve reading.

Important to Know

- Children can be good readers even if they have:
  - Reduced vision
  - Convergence Insufficiency
  - Strabismus
  - Inability to make saccades
  - Nystagmus

Struggling to Read

What are Learning Disabilities?

- They arise from neurological differences in brain structure and function
- They affect the brain’s ability to store, process or communicate information
- They do not arise from malfunctions in the visual system
- > 2 million elementary school children in the U.S. are affected

Specific Learning Disabilities

- Dyslexia
  - Reading disability
- Dysgraphia
  - Writing disability
  - Often found in addition to dyslexia
- Dyscalculia
  - Mathematics disability
Millions of Children Struggle to Read

- 60% of students in 4th grade in the U.S. are not proficient in reading
- Initial difficulty in learning to read may have a number of different causes:
  - Deficits in oral language
  - Lack of background knowledge
  - Inadequate instruction (“dysteacchia”)
  - Insufficient reading practice
  - Reading disability (dyslexia)

Dyslexia-A Language-Based Learning Disability

- Dyslexia
  - Typically results from a deficit in the phonological component of language
  - Often unexpected in relation to other cognitive abilities
  - Exists when the phonological deficit causes weak decoding skills leading to labored reading and secondary difficulties with spelling and writing

Dyslexia

- Dyslexia is the most common learning disability
  - 80% of all learning disabilities
  - 20% of children in the U.S. demonstrate some degree of dyslexia
  - But only 5% of children have been diagnosed

Dyslexia runs in families

- 40% affected sibling
- 40% affected parent

Multiple genes are suspected

Dyslexia can vary from mild to severe

Dyslexia is a life-long condition

Dyslexia - Shaywitz

Dyslexia is not related to intelligence

- Children with dyslexia are not “dumb” or “lazy”
  - Their brains just process information differently
- This often leads to “out-of-the-box” thinking
- Children with dyslexia may be bright, analytic, creative, and gifted in other areas

The Dyslexic Brain Has Many Assets

Desirable for the 21st Century

- The assets of the dyslexic brain may account for success in the fields of Art, Architecture, Science, Technology, Engineering, & Math
- 1/3 of American entrepreneurs are dyslexic
**Dyslexia - Neurobiology**

- Our brains were originally designed to have the ability to speak, not read.
- Through experience with language, every child must adapt and rewire existing areas to develop the ability to read.

**Brain Research**

- The brain of people with dyslexia are “wired” differently even before they start to read.
- Children with dyslexia use different areas of the brain for processing written words, compared to typical readers.
- Using alternative pathways is less “efficient.”
- After effective phonological training, the MRI brain activation pattern is seen to improve.

**Multi-Deficit Model of Reading Disability**

- A phonological deficit is the most common.
- But children may have other deficits including:
  - Oral language
  - Listening and/or reading comprehension
  - Processing speed (Rapid Automatized Naming)
  - Sight word recognition (orthographic)
  - Attention
  - Verbal working memory
  - Sublexical and lexical strategies

**Dyslexia is More Than a Reading Disability**

- **Difficulties in:**
  - Spoken language
  - Spelling
  - Writing (dysgraphia)
  - Foreign language
  - Math word-problems
  - Motor coordination
- ADHD in 20 - 40% & vice versa ** ***
  - ADHD can severely interfere with reading.

**Vision and Dyslexia?**

- In a large study of 5822 children:
  - Children with reading impairment had the same incidence of visual problems as children with typical reading.
  - Visual problems may co-exist with reading impairment, but were present with the same incidence.

  - Ophthalmic abnormalities and reading impairment.
Dyslexia is a Language-Based Disability
Contrary to popular belief:

- The primary sign of dyslexia is **not** reversing letters
- Rather it is a difficulty interpreting the **sound components** of our language and difficulties sounding out words
- It is important to look for **spelling problems** not reversals
People with dyslexia do **not** see things backwards!!

Can’t Read Because of a “Tracking” Problem??

Dyslexia is NOT Caused by a “Tracking Problem”

- Children with dyslexia may skip words or lines when reading
- Some people call this word and line skipping a “tracking problem”
- Fluent reading is **not** based on “eye tracking”

Dyslexia is NOT Caused by a “Tracking Problem”

- Fluent reading has to do with decoding abilities, rapid processing, comprehension, memory and attention

Early Detection & Remediation is Essential

- Dyslexic children who receive effective phonological & phonemic training in K & 1st grade
  - 75% to 90% will learn to read on grade level
- Vs. children **not** identified until >3rd grade
  - Only 26% will learn to read on grade level
- *** SO, DON’T DELAY ***

Early Detection of Reading Difficulties

Reading screening in School
Allows earlier identification of the struggling child

- **K** - Alphabet recognition, phonemic awareness & rapid naming
- **1st** - Add word identification fluency
- **2nd** - Add oral reading fluency
Evaluation

- Dyslexia can only be formally diagnosed through a comprehensive evaluation.
- Many different professionals can perform this evaluation.
- It’s important that the person who evaluates a child be properly trained and have experience with dyslexia.
- Attention evaluation is extremely important.

The Importance of Well Trained Teachers

International Dyslexia Association - 2010
Knowledge and Practice Standards for Teachers of Reading

- Knowledgeable and skilled teachers are crucial for reading instruction.
- The IDA has recommended that teachers receive courses on language, reading theory, and dyslexia.
- Urgent action is required.

Dyslexia Treatment: Fact or Fiction

Evidence-Based Dyslexia Treatment Principles

- In Kindergarten both phonologic and phonemic awareness should be taught before the alphabet and phonics instruction begins.
- Otherwise, the phonics instruction will not make sense to the dyslexic child.
- Without phonics the child cannot use the alphabetic code to sound out words.

IDA - “Structured Literacy”

- Decodable text is used for reading practice.
- Phonics (letter-sound correspondence) is taught so that decodable words can be recognized.
- Sound out decodable words.
- Sight read only non-decodable words.
- Teach the structure of words and word part meanings.
- Guessing is not considered reading.

Treatment of Dyslexia is Educational

Individualized Explicit Interactive Multisensory Teaching (Orton-Gillingham Method) of the 5 reading skills:

- Phonemic Awareness
- Phonics
- Vocabulary development
- Reading fluency
- Read orally 20 minutes daily
- Reading comprehension
- PLUS
- 30 Spelling Rules, Morphology, & Writing
- Study Skills, Organization & Learning Strategies
- Accommodations
Treatment of Dyslexia - Accommodations

- Accommodations level the “playing field”
- Accommodations can include:
  - Extra time
  - Separate quiet room
  - Testing alternatives
  - Oral instead of written tests
  - Preferential seating
  - Lecture notes
  - Assistive technology
    - Computers & computer programs
    - Spell checkers
    - Recorded books
  - Computer assisted reading programs

The Prognosis of Dyslexia

- Depends on the:
  - Severity
  - Specific patterns of strengths and weaknesses
  - Early diagnosis
  - Timing, intensity, duration, and appropriateness of the intervention
  - Treatment of attention problems

What Are the Controversial Vision Theories and Therapies?

- “Scotopic Sensitivity Syndrome”
  - Tinted Lenses (Irlen Lenses)
- Behavioral Optometry
  - Training Glasses
  - Vision Therapy

“Scotopic Sensitivity Syndrome”

- Symptoms of SSS are called: “Visual stress”
  - Visual perceptual distortions & sensitivities to particular wavelengths of light
  - Moving or blurring print
  - Sensitivity to color
  - Glare from patterns or reflective paper
  - Visual discomfort & eye strain
  - Burning eyes & tearing
  - Headaches & migraine headaches

Tinted Lenses / Filters

- Helen Irlen proposed using colored lenses in certain types of dyslexics (1983)
- Irlen’s initial claims were based on observations, anecdotal accounts of a few adults, and no formal experimentation
- Prior to any supporting research it was featured twice on the television program 60 Minutes
- This national exposure led to great interest in the treatment

Review of Literature on Tinted Lenses / Filters

- Robinson 1993 - Review of multiple studies
- Hyatt, Stephenson & Carter - 2009 - Review of 17 studies
  Joint AAP, AAO, AAPOS & AACO Technical Report
- Fletcher & Currie - 2011 – Review of Literature
- Griffiths, Taylor, et al - 2016 - Systematic Review
- Conclusions: Serious flaws invalidate many published studies
  Small benefits due to practice or placebo
  No positive effect found on literacy achievement
Tinted Lenses / Filters – No Benefit

- Ritchie, Della Sala & McIntosh - 2011
  Irlen Colored Overlays Do Not Alleviate Reading Difficulties
  Placebo controlled study
  - Irlen diagnostician diagnosed Irlen Syndrome in 47 of 61 below-average readers
  - Irlen colored overlays showed no immediate effect on reading in the 61 children with reading difficulties - even among the 47 diagnosed with Irlen Syndrome

- LM Henderson, N Tsogka, MJ Snowling - 2013
  Questioning the benefit that colored overlays can have for reading in students with and without dyslexia
  - Reading fluency & comprehension were not improved by colored overlays
  - Symptoms of “visual stress” can be attributed to dyslexia itself

Behavioral/Developmental Optometry

- Skeffington’s (1890 – 1976)
  Theories (from pre WW II)
  - The basis for much of behavioral optometry
  - Theories were derived from clinical experience & never independently refereed or formally studied scientifically by non-behavioral optometrists

Optometric Use of “Training Glasses”

- Jennings - 2000
  UK College of Optometrists - Review of Behavioral Optometric Literature
  - No convincing experimental evidence of any benefits from low-plus “training glasses”

Optometric Use of “Training Glasses”

- Skeffington’s Nearpoint Stress Model
  - Developmental optometrists believe that low-power (+.50) “training glasses” are effective in permitting more efficient reading
  - Developmental optometrists believe their methods foster optimal development and minimize stress on the visual system

Vision Therapy (Vision Training = VT)

- Vision therapy (VT)
  - Is a term used by optometrists
  - Optometrists define VT as:
    - An attempt to develop or improve visual skills and abilities
    - Improve visual comfort, ease, and efficiency
    - Improve visual processing
      - (Never documented)
Vision Therapy (Vision Training = VT)

- **Orthoptic techniques** are used to change specific visual functions
  - Convergence
  - Accommodation
- **Behavioral vision therapy** is used to improve visual perception

Vision Therapy (Vision Training = VT)

- Some standard treatments are included in “VT”:
  - Orthoptic techniques - Eye Exercises
    - Convergence
  - Amblyopia treatments
    - Patching
    - Penalization with eye drops
    - Blurring filters
  - Pediatric Ophthalmologists and Orthoptists use the methods that have been validated:
    - But, we just don’t call those techniques “Vision Therapy”

Training Techniques - Eye Movement

- Space Fixator and Rotating Pegboard
- Marsden Ball

Training Techniques - Ocular Motility

- To “improve” saccades
- Methods
  - Corner saccades
  - Hart chart saccades

Training Techniques - Bilateral Integration

- Jumping Jacks + metronome
- Windshield wipers
- Angels in the snow
- Balance board
- Chalkboard circles
- Slap-tap
- Bean bag toss

Vision Therapy in Learning Disabilities

- **American Academy of Optometry**
- **American Optometric Association**
- **Policy Statement 1997**

  - “Vision therapy does not directly treat learning disabilities or dyslexia”
  - “Vision therapy is a treatment to improve visual efficiency and visual processing, thereby allowing the person to be more responsive to educational instruction.”
Reviews of the Optometric Vision Therapy Literature

1. The Institute for Clinical Systems Improvement
   Technology Assessment Report on VT - 2003
2. Rawstron - 2005 - Review of VT Studies
3. AJ Jennings 2000 - Review of VT Studies
4. BT Barrett 2009 - Review of VT Studies
5. AAP, AAO, AAPOS, AACO - Learning Disabilities, Dyslexia, and Vision
8. UK College of Optometrists -
10. BT Barrett 2009 - Review of VT Studies
11. AAP, AAO, AAPOS, AACO - Learning Disabilities, Dyslexia, and Vision
14. UK College of Optometrists -

Summary on Vision Therapy

- No evidence to support using VT or tinted lenses to directly or indirectly treat dyslexia
- Vision therapy has not been shown to improve a child's responsiveness to educational therapy
- Burden of proof is on the promoters of vision therapy to provide strong and scientifically valid evidence

Summary on Vision Therapy

- VT is not standardized & may overlap
  - Educational Therapy
  - Occupational Therapy
- VT is not an evidence-based treatment
  - Except Convergence Insufficiency
  - Treatment of CI is not a treatment for dyslexia
  - Not recommended for dyslexia

The Role of the Ophthalmologist

What to Tell Parents of a Struggling Reader

- Even though it is not my place to diagnose dyslexia ...
- I suspect this may be a "reading disorder"
- I can refer you to local specialists
  - Educational Psychologists and/or Neuropsychologists can perform an evaluation to diagnose the problem
  - Educational therapists and reading specialists can provide treatments

If No Eye or Vision Problem is Detected

- Inform "tracking and teaming" are fine
- Assure parents that the eyes are not the cause of the reading difficulty
- But, saying that it is "not the eyes" is not enough ...
- We must provide info, hope and a plan
- If we don’t the vision therapists will

What to Tell the Parent of a Struggling Reader
**Dyslexia** is a language-based learning disability. Typically a deficit in phonological processing causes weak decoding skills leading to labored reading and secondary difficulties with spelling and writing. The treatment is educational best provided by reading specialists or educational therapists.

**What This Child’s Parents Need From You**
- Information on reading disorders/disabilities
- What dyslexia is & what it is not
- Brochures, articles, books and websites
- Clear guidance on how to proceed
- Discuss the importance of early evaluation and treatment
- Where to go for outside evaluation and remediation
- How dyslexia should & should/not be treated
- Support/advocacy
  - Letter to school and pediatrician with your findings and recommendations
  - Letter to assist parents in requesting public school evaluation
  - Talk with teachers if they have questions

**Emphasize The Positive**
- Dyslexia doesn’t mean your child isn’t smart - his/her brain just works differently than other kids
- Children with dyslexia have many strengths
- Parents should identify their child’s social, athletic and academic strengths and concentrate on activities in which their child excels
- Because we all succeed on our strengths

**Your Patient Is In Good Company!**
- There is a long list of entrepreneurs, inventors, scientists, actors, doctors, lawyers, and other professionals with dyslexia.
- Walt Disney - Producer of Disney
- Steven Spielberg - Film director, producer
- Ted Turner - Founder of Turner Broadcasting
- Steve Jobs - Co-founder of Apple
- Bill Gates - Founder of Microsoft
- Richard Branson - Founder of Virgin Records
- Magic Johnson - Professional basketball player
- Bruce Jenner - Olympian and reality TV star
- Scott Adams - Creator of "Dilbert"

**Educating Parents**
- Using ineffective, controversial methods of treatment may give parents and teachers a false sense of security that a child’s reading difficulties are being addressed.
- They also waste family and/or school time and resources, and may delay proper instruction or remediation - this delay has serious implications.

**Emphasize The Positive**
- Parents need to beware of promises of quick and easy cures, because there is no speedy and simple solution.
- The public must learn to carefully evaluate the information that they receive in the face of aggressive promotion.
- Educated parents can advocate for their child.

**Your Patient Is In Good Company!**
- Walt Disney - Founder of Disney
- Steven Spielberg - Film director, producer
- Ted Turner - Founder of Turner Broadcasting
- Steve Jobs - Co-founder of Apple
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- Magic Johnson - Professional basketball player
- Bruce Jenner - Olympian and reality TV star
- Scott Adams - Creator of "Dilbert"
Educating Parents - Resources

AAPOS Learning Disabilities Package

Available at www.aapos.org

1. A Parents Guide to Dyslexia
2. Learning Disabilities Brochure
3. Resource List for Parents

Specialists for Testing & Treatment

- Make a list of local specialists with their description and contact information
  - For evaluation (testing)
  - For remediation
    - Look for certification in a Multi-sensory Structured Language Program (Orton-Gillingham, Barlow, Wilson, and more)
- Where can you find specialists? Ask your local developmental pediatrician
  - www.dyslexiaida.org - (International Dyslexia Association) - listed by state
  - www.aetonline.org - (Association of Educational Therapists)
  - www.altaread.org - (Certified Academic Language Therapists)
  - www.childrensdyslexiacenters.org (free tutoring)
  - www.decodingdyslexianj.org (your state’s initials-nj)
  - www.bartonreading.com/forms/sendLocalTutors.php (also has list of internet tutors)
  - www.lexercise.com (internet tutors)

Educating Parents - Resources - AAO

- The Learning Disabilities, Dyslexia and Vision Policy Statement is available at:
  http://pediatrics.aappublications.org/content/124/2/837

- The Learning Disabilities, Dyslexia and Vision Technical Report is available at:
  http://pediatrics.aappublications.org/content/127/3/6818.full.pdf+html

Educating Parents - Resources - Websites

Websites on Learning Disabilities & Dyslexia

- International Dyslexia Association
  www.dyslexiaida.org (new website name)
- National Center for Learning Disabilities
  www.ncld.org
- Learning Disabilities On-Line
  www.ldonline.com
- Learning Disabilities Association of America
  www.ldaamerica.org
- Reading Rockets
  www.readingrockets.org
Educating Parents - Resources – Websites

**Websites on Learning Disabilities & ADHD**

- International Yale Center for Dyslexia & Creativity
  - www.dyslexia.yale.edu
- Dyslexia Help - University of Michigan
  - www.dyslexiahelp.umich.edu
- Understood (interactive website)
  - www.understood.org
- Schwab
  - www.greatschools.org/LD.topic?content=1541
- CHADD
  - www.chadd.org

**Websites of Learning Disabilities Research Centers**

- Learning Disabilities Research Centers Consortium
  - www.nichd.nih.gov/research/supported/Pages/ldrc.aspx
- Florida State University
  - http://fsuld.fcrr.org/
- University of Colorado
  - http://ibgwww.colorado.edu/cldr/c/
- University of Houston
  - https://www.texasldcenter.org/

**Educating Parents - Resources – Articles**

- IDA Dyslexia Handbook - What Every Family Should Know
  - Available at: https://dyslexiaida.org/ida-dyslexia-handbook/
- Dyslexia - SE Shaywitz
  - Scientific American 1996;275(5):98-104
  - Available at: www.dyslexia.yale.edu/Dyslexia_articleintro.html
- Outsmarting Dyslexia - Parents Magazine
- Detecting Dyslexia - Parents Magazine
- Overcoming Dyslexia (The Dyslexic CEO) - Fortune Magazine

**Educating Parents - Resources – Books**

**Books on Learning Disabilities**

- Overcoming Dyslexia - Sally Shaywitz
- Basic Facts about Dyslexia & Other Reading Problems - Louisa Cook Moats & Karen E. Dakin
- Parenting a Struggling Reader - Susan Hall & Louisa C. Moats
- The Dyslexia Empowerment Plan - Ben Foss
- The Misunderstood Child - Larry Silver