DYSLEXIA BASICS & THE
ORTON-GILLINGHAM APPROACH

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Dyslexia Is ……

A Language-Based Learning Difference:

- Estimated to affect as much as 15-20% of the population to some degree
- A life-long challenge
- Includes a cluster of symptoms which can impact language skills typically affecting:
  - Reading
  - Spelling
  - Written Language
  - Processing oral language
What Causes Dyslexia?

- Dyslexia has a strong hereditary factor
  - 65% of dyslexics will have a first-line relative similarly affected

- Dyslexia is neurobiological in nature
  - Research documents anatomical and neurological differences in the brains of dyslexics which cause the associated language-processing difficulties.

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What Causes Dyslexia?

Exact causes are still unclear, but research repeatedly points to a core deficit in phonological processing:

- Identifying separate speech sounds within words
- Mapping speech to print:
  - Understanding that letters (graphemes) represent sounds (phonemes)
The Reading Brain

Two neuronal pathways involved with reading

- **Tempo-Parietal Region:**
  - word analysis
  - mapping speech to print

- **Occipital-temporal areas:**
  - word formation area
  - used in later stages of reading
  - more developed readers rapidly recognize incoming information from sensory systems about a word (how it looks, how it sounds, what it means.)
Dyslexic vs. Non-Dyslexic Readers

Non-Dyslexic Brain

Dyslexic Brain
Dyslexics present with a cluster of symptoms, strengths, weaknesses, and personality traits which are as varied as the general population.

- Most have difficulty with word recognition, reading, spelling, fluency.

For some, literacy acquisition is fairly easy, but later experience difficulties with more complex language skills:
- Essay writing, grammar, mechanics
- Comprehension of higher level text
Notable cognitive characteristics often exhibited, in some constellation, by children with dyslexia:

- **Auditory Processing Difficulties**
  - phonological discrimination
  - auditory sequencing
  - auditory figure/ground
  - auditory working memory
  - retrieving information from memory

- **Language Difficulties**
  - Receptive/Expressive Language difficulties
  - Articulation difficulties
  - Difficulties with naming speed and accuracy
More Related Difficulties

- **Visual/Motor Difficulties**
  - Dysgraphia
  - integrating information
  - fine and/or gross motor incoordination

- **Memory Difficulties**
  - short-term memory problem
  - difficulties with working memory
  - Processing speed (retrieval fluency)
These Terms Refer to Language Processing Differences

- Dyslexia
- Dyscalculia
- Dysgraphia
- Auditory Processing disorder
- Central Auditory Processing Disorder (CAPD)
- Language-based learning differences
Common Indicators of Language Difficulty

**Preschool Aged Children**

- Delay in speaking
- Articulation problems
- Difficulty recognizing, producing rhymes
- Difficulty remembering rote information
  - Letter names
  - Phone numbers
  - Addresses
- Difficulty remembering and following directions
Characteristics in Primary Grades

- Often demonstrates gifts in high-level thinking processes
  - strong reasoning skills
  - curious, active imagination
  - ability to “figure things out”

- Problems segmenting words into individual sounds

- Difficulty blending sounds to make words

- Reading and Spelling errors that involve problems with sequencing and monitoring sound/symbol correspondence. Can happen at the phonologic or syllabic level
Characteristics in Primary Grades

- Reversals (b/d b/p w/m)
- Confusion with similar auditory sounds (f/v, s/sh, d/t)
- Transpositions (gril for girl, pisghetti for spaghetti)
- Substitutions (not for nut, human for humid)
- Omissions at phonologic or syllabic level (spit/split, laxing for relaxing)

Difficulties with academic tasks requiring rote memory:
- spelling words over time
- basic sight words
“(Poor readers) would require one year to read what the best readers read in two days.” (from *Overcoming Dyslexia* pgs. 106 & 107)
Characteristics In Older Students

- Lack of interest in reading or interest in reading for pleasure
- Fluency Lags- slow, choppy, laborious, oral reading
- Often demonstrates difficulties with directionality
  - “preposition confusion”
  - Sequencing (first, last)
  - Telling time
  - Left/right difficulties
- Difficulties with advanced language concepts despite strong high-level processes:
  - Writing mechanics, grammar, composition
Characteristics In Older Students

- Oral vocabulary deficits despite obvious cognitive abilities
  - Often due to lack of reading exposure
  - Over-reliance on context clues when reading
  - Deficits in overall background knowledge
  - Comprehension problems related to lack of reading practice and continued decoding problems
- Often, subtle difficulties with word naming (dysnomia)
  - Ex: Confusing “volcano” with “tornado”
Dyslexia Assessment Battery

- Parent Questionnaires
- Vision/Hearing Screenings
- Intellectual Evaluation
  - WISC-IV, RIAS, DAS, Stanford-Binet
- Academic Achievement Testing
  - Woodcock-Johnson, WIAT
- Listening Comprehension Measures
  - OWLS, WIAT
Dyslexia Assessment Battery

- Other Standardized Tests of Reading and Spelling
  - GORT, TOWRE, Tests of Written Spelling
- Tests of Phonological Processing
  - CTOPP or LAC
- Informal Tests of decoding, alphabet knowledge, writing samples, informal handwriting assessments
Typical Testing Profile of a Dyslexic Child

- Average or above Intelligence (ss 90+)
- Often markedly discrepant on cognitive testing indices:
  - Verbal vs. performance Index of the WISC-IV
  - Often low scores on working memory and/or processing speed
  - Average language/listening comprehension scores on achievement testing
- Deficits in:
  - Decoding/Word Attack
  - Spelling/encoding
  - Deficits in phonological awareness/fluency
Sounds Like My Child, but no one’s using the “D” Word

Dyslexia is a medical diagnosis with an educational treatment.

Public Schools do not typically use the term, they favor:
- LD in reading decoding and/or reading comprehension
- LD in written language

Guidelines for services in public education are mandated by law with stringent parameters which vary from state to state.
- Student must have a 15 point discrepancy between IQ and achievement.
- A student can not qualify for services in spelling
- If a child is reading on grade level (despite much higher potential) services are generally denied.
The Importance of Early Intervention

- NIH Research supports that there is a critical window between the ages of 5 and 7 when underlying reading skills are most easily learned.

- If students are “At Risk” research supports that just 30 minutes per day of intervention can address the problem.

- By the time that same child is 8 to 9, it takes at least two hours daily of focused intervention.
Efficacy of the Orton-Gillingham Approach

Difference in Control Group and Remediation Group in Increase in Non-Word Reading Over 8-Week Period
Efficacy of the Orton-Gillingham Approach

![Graph showing the efficacy of the Orton-Gillingham Approach. The x-axis represents time points T1, T2, and T3, while the y-axis represents standard scores. The graph compares different aspects such as Rapid Naming, Phonemic Awareness, Working Memory, Passage Comprehension, Real Word Reading, Pseudo Word Reading, and Symbol Imagery. The data shows an improvement in performance across different domains over time.]
Instruction Implications for Dyslexia:

- 30 years of NIH-funded research documents the importance of structured, multisensory language intervention which is direct, sequential, cumulative.

- Five Essential components of the OG Approach include:
  - Phonological awareness
  - Phonics
  - Fluency
  - Vocabulary Development
  - Comprehension strategies
Guiding Principles of O-G Instruction

- **Diagnostic/Prescriptive Teaching**
  - Not a packaged program
  - Individually paced
  - Constant Assessment of the group/plan according to their needs on a daily basis.

- **Direct and Explicit**
  - Model what you are teaching
  - Provide clear/concise directions
Guiding Principles-continued

- Simultaneously Multisensory
  - VAKT concurrently:
    - uses strongest learning channel for information retention
    - bolsters weaker modalities

- Synthetic/Analytic
  - synthetic: put sounds together for spelling (encoding)
  - analytic: pulling words apart for reading (decoding)
Guiding Principles—continued

- **Alphabetic/Phonetic**
  - Our language is based on an alphabetic structure which must be taught to our students.
  - 85% of all English words are pattern-based for reading and spelling.
  - Students don’t readily intuit language structure and thus must be taught the structure of the English language.

- **Cumulative**
  - Building constantly on previously learned material to facilitate retention and automaticity.
  - Scaffolding back, if needed.
Guiding Principles-continued

- **Structured, Sequential, Systematic**
  - Small to large, simple to complex, known to unknown

- **Cognitive**
  - Tap into student’s innate curiosity
  - Active/cognitive questioning and engagement helps with retention

Dyslexics are novel thinkers, they need the “whys” behind the “whats.”
Basic O-G Concepts and Terms

Beginning O-G lessons focus on basic phonology:

- One-to-one correspondence in sound symbol relationship
- Mapping basic phonemes (sounds) to graphemes (letters):
  - Consonants, short vowel sounds, blends, digraphs
  - 26 letters which are represented by 44 speech sounds
  - Beginning syllable types, blending and dividing
    - Closed: cut nap/kin
    - Silent e: bike con/crete
Basic O-G Concepts and Terms

- Basic spelling patterns:
  - Ff-ll-ss-zz pattern (buzz, kill, pass, fluff)
  - k/ck spelling pattern
    - Use “k” at the end of a word after a consonant, long vowel or vowel team (milk, smoke, speak)
    - Use “ck” at the end of a 1 syllable word or 1st syllable directly after a short vowel sound (chick, locket)
Basic O-G Concepts and Terms

- **Spelling Patterns for adding Anglo-Saxon suffixes to base words**
  - Flip + ing = flipping (doubling pattern)
  - Bake + er = baker (drop e)
  - Try + s = tries (change y to i)
Intermediate Level Concepts

- Focus on the syllabic structure of English
- Typically introduced as a student is reading at the late second to third grade level:
  - Syllable types which determine the vowel sound
Syllable Types

6 syllable types in the English language:

- **Closed** – run cos/mic
- **Open** – me ve/to
- **Silent e** – cake re/make
- **R-controlled** corn, bark, bird, curl, fern (cor/ner)
- **Consonant-le** title kettle wrestle table
- **Vowel combinations:**
  - **Vowel teams:** rain team
  - **Diphthongs:** oil saw sow about August
6 Patterns for dividing longer words into syllables:

- Vc/cv  rab/bit  em/pire
- Vccccv  os/trich  corn/stalk
- v/cv  ti/ger  si/lent
- Vc/v  cam/el  cav/ern
- /cle  ta/ble  ket/tle
- v/v  cha/os  re/act
Morphemic Level of Instruction

- Focus on less common spellings, vocabulary, written language, grammar

- Understanding of English as an assimilated language
  - Latin (rejection, tractor)
  - Anglo-Saxon (little words & non-phonetic - red, was, arm)
  - Greek (biology Christmas)
  - French (antique)
Move from dividing words syllabically to morphemically:

- trac/tor  ->  tract/or
- wan/ted  ->  want/ed
- gen/tle  ->  gent/le

Latinate structure of words:

- re  ->  prefix (preposition)  "back or again"
- port  ->  root (verb)  to carry
- er  ->  suffix (part of speech)  noun
Reading with your child at home

- How to Select material that is at the child’s instructional level?
  - Open to the middle of the book
  - Have the child read approximately 100 words
  - If the child misreads 5 words or less, this is an appropriate book
  - Less than 95% accuracy is at “frustration” level.
  - This is counter-productive, as it promotes guessing
Have children read aloud.

- This facilitates comprehension.
- Buddy read, if necessary
- Keep it at 20 minutes, maximum
- Parents track along using an index card above the words and the child tracks using their pencil or finger below the words
Two Reasons to Read at Home:

1. Reading for fluency and accuracy
   - Reading selection should be at child’s instructional level.

2. Reading for comprehension and vocabulary development
   - Read to your children to develop listening comprehension skills and vocabulary acquisition.
Homework Tips

- Provide structure
  - Use and sign your Homework Assignment book
  - Designate space and consistent time
  - Work in increments, let your child prioritize work
  - Create a check list to insure all assignments are completed
  - Have the child “guesstimate” the amount of time each assignment will take
    - Set a timer
    - Provide a break at the end of that time period

- Consider a monthly or weekly calendar for long-term assignments. (color coding works well)
Helpful Books and Resources

- Overcoming Dyslexia by Sally Shaywitz
- Straight Talk About Reading by Hall and Moats
- Driven To Distracction by Hallowell and Ratey
- The Dyslexic Advantage by Eide and Eide

Websites:

www.ortonacademy.org
www.interdys.org
www.wrightslaw.com
Thank You

Questions?
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