Dyslexia: Assessment, Diagnosis, and Secondary Characteristics Including Anxiety

Presenters:
Christy Emmons, Psy.D., Pediatric Neuropsychologist, Founder of CPN
Erika Buchanan, Ph.D., Licensed Psychologist/Certified School Psychologist

Center for Pediatric Neuropsychology, PLLC
The Center for Pediatric Neuropsychology, PLLC (CPN) was founded to provide highly specialized and comprehensive neuropsychological evaluations and treatment services for children with complex medical illnesses, neurobehavioral disorders, and psychiatric concerns. The Center is dedicated to helping children and their families to maximize their potential by understanding their strengths, challenges, behavioral and learning differences and helping to create a comprehensive plan to further their development.

www.centerforpediatricneuropsychology.com

Goals for Presentation
- Gain an understanding of the evaluation process for dyslexia
- Learn the aspects of functioning typically assessed for dyslexia
- Learn about other issues that often arise for individuals with dyslexia (e.g. learning, emotional, behavioral, etc.)
- Learn about the kinds of academic accommodations typically recommended for dyslexia
- Learn about supports available for the emotional support of individuals with dyslexia
What is Dyslexia?

Dyslexia is...

- The failure to acquire age-appropriate reading skills despite “average” intelligence, typical sensory functioning, the absence of psychopathology, or the absence environmental disadvantage.

Common Misconceptions

- “Medical” disorder (i.e. psychs/school psychs cannot diagnose)
- Visual Disorder – “Seeing” words backwards
- Number/Letter reversals
- Outgrow it
Signs of Dyslexia

- Delayed language acquisition
- Naming difficulties
- Rhyming Difficulties
- Mispronunciation of words when speaking
- Trouble following verbal directions
- Poor spelling
- Slow and labored reading

Strong predictive factor for dyslexia is having a family member who has been diagnosed with dyslexia.

Subtypes of Dyslexia

- Dysphonic Dyslexia
  - Phonological processes are poorly developed and the student tends to over rely on the visual cues, or the image of the word, when reading.

- Orthographic/Surface Dyslexia
  - Difficulties with the visual spatial aspects of reading.
  - The processes that involve synthesizing the visual features of the letters and words and the subsequent storage of that information in longterm memory are typically poorly developed.
Subtypes of Dyslexia, cont.

- **Mixed Dyslexia**
  - Combination of difficulties in both the phonetic and orthographic processes.
  - Children tend to make strange error patterns when reading and have poor syllabic representation.
  - For example, they may read the word “advice” as “exvices” or “museum” as “musume”.

- **Deep Dyslexia**
  - Rare form of a reading comprehension disorder where the individual is able to read concrete words without difficulty, but the reading of words with more abstract meanings is impaired.
  - Individuals tend to rely on the semantic cues of the words around the unknown word and will use context clues in order to guess what the unknown word might be.

I think my kid has dyslexia… now what?

Schedule a neuropsychological evaluation.

Early Identification

“Achievement Gap in Reading Is Present as Early as First Grade and Persists through Adolescence”

- The achievement gap between typical and dyslexic readers is evident as early as first grade, and this gap persists into adolescence. These findings provide strong evidence and impetus for early identification of and intervention for young children at risk for dyslexia. Implementing effective reading programs as early as kindergarten or even preschool offers the potential to close the achievement gap. (J Pediatr 2015;167:1121-5).

Neuropsychological Evaluation

- Assesses various domains in order to identify patterns of strengths and areas of need for diagnostic purposes and to guide intervention.

Areas typically assessed:
- General Cognitive Ability
- Language Skills (including phonological processing)
- Visual-Perceptual/Visual-Motor Integration Skills
- Memory and Learning
- Attention/Executive Functioning
- Social/Emotional/Behavioral Functioning
- Academic Skills

Normative-Based Testing
# Neuropsychological Evaluation for Dyslexia

What we typically look for when assessing for dysphonetic dyslexia...

## General Cognitive Ability
- **Verbal Reasoning Skills**
  - Poor performance may indicate language problems
- **Perceptual/Nonverbal/Visual Reasoning Skills**
  - Poor performance may indicate visual perceptual issues
- **Fluid Reasoning Skills**
- **Working Memory**
  - Poor working memory capacity can affect phonological processing, ability to follow verbal directions, etc.
- **Processing Speed**
  - Slow processing speed may also indicate significant anxiety

## Language
- **Receptive Language/Vocabulary**
- **Expressive Language/Vocabulary**
- **Verbal Fluency**
  - Categorical vs. Phonetic Cue
- **Phonological Processing**
- **Rapid Automatic Naming**
Visual-Perceptual/Visual-Motor
- Deficits in visual-perceptual skills may contribute to orthographic processing problems when reading
- Visual-Motor Integration deficits may affect handwriting/written expression skills

Memory and Learning
- Rote Verbal Memory
- Semantic Verbal Memory
- Nonverbal Memory

Attention/Executive Functioning
- Sustained Auditory Attention
- Sustained Visual Attention
- Executive Functioning
  - Cognitive flexibility
  - Working memory and maintenance of cognitive set
  - Inhibition
  - Organization
  - Self-Monitoring
    - Task Monitoring
Social/Emotional/Behavioral

- Externalizing Concerns
- Internalizing Concerns
- Adaptive Behaviors

Academic Skills

- Reading
  - Early Reading Skills
    - Letter-Sound Correspondence
    - Rhyming
    - Identifying Beginning/Ending Sounds
  - Sight Words
  - Blending of Sounds
  - Word/Pseudoword Decoding
  - Reading Fluency
  - Reading Comprehension
    - Silent and Oral

Academic Skills, cont.

- Written Expression
  - Alphabet sequencing
  - Letter Formation
  - Spelling skills
  - How do they approach an unknown word?
  - Sentence Formation
  - Essay Composition
    - Organization of Thoughts
    - Grammar and Spelling Errors
- Math
  - Automaticity of Timed Math Facts
Dyslexia and Special Education

IDEA (Federal Special Education Law)

“Specific learning disability—General. Specific learning disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.” (emphasis added)

Letter from US Dept. of Education


In PA, Dyslexia is synonymous with Specific Learning Disability in Basic Reading and Reading Fluency in educational terms.

Dyslexia can also be supported through a Section 504/Chapter 15 Service Agreement.
Interventions and Accommodations for Dyslexia

**Intervention**

- A systematic and sequential phonics program that addresses phoneme awareness through multi-sensory methods and progresses to phoneme (sound)/grapheme (letter) correspondence, teaches blending, the 'six types' of syllables, rules and probabilities in the English language and roots association affixes as well as Morphology.

  - Orton-Gillingham Multisensory Method
  - Wilson programs [www.wilsonlanguage.com](http://www.wilsonlanguage.com)

**Accommodations**

- Tests that are not assessing reading fluency should be read to the individual in a small group or individual setting. Allow oral responding if there is difficulty reading multiple-choice options or difficulties with written expression that would impede a short answer or essay response.

- Extended time for assignments and assessments.

- The individual should not be penalized for spelling errors. Allow them to complete written work on a laptop or other device that include a spell checking option.

- The individual should not be required to read aloud in class.
Accommodations, cont.

- The individual should not be graded for "Rocket Math" or other similar timed math facts activities. Children with dyslexia often have difficulties with the "automaticity" of these facts as well.
- Assigned homework should focus on quality versus quantity. If a large amount of work needs to be done, consider helping assign intermittent due dates with work chunked into manageable pieces.
- The individual should be allowed to turn in dictated homework, oral, video, or computerized presentations. Dioramas, collages, debates, or working models are other examples of alternative assignments that may be more appropriate in order to demonstrate knowledge.

Accommodations, cont.

- Provision of a copy of the lecture notes/slides whenever possible in order to reduce copying tasks.
- Foreign language acquisition may be difficult and modification to credit accrual may need to be considered.
- Use of highlighters, calculators, index cards to follow a line of text, enlarging print, learning keyboarding skills, using spellcheck are all low cost versions of assistive technology that may be beneficial.
- Software that translates speech to print (such as DragonSpeak or software built into current Mac products) and print-to-speech software technologies such as Natural Reader http://www.naturalreaders.com/index.php may be helpful for individuals with dyslexia. Microsoft also offers a variety of products geared towards accommodation for disabilities and more information can be found at http://www.microsoft.com/enable/at/types.aspx

Anxiety, Stress, and Dyslexia
Anxiety and Stress

- Anxiety: the fear of what MAY be
- Stress: fear of what IS
  - Neurobiology: Stress is the reaction to a threat or a perceived threat.
  - Fight: Try to overcome or subdue the threat
  - Flight: Run away.

How the stress builds...

The Big Picture

- Stress accumulates as children try to cope with academic demands.
- Frustration and prolonged effects on a wide range of academic subjects can lead to:
  - Lower self-esteem
  - Lower levels of perceived scholastic competence (Frederickson & Jacobs 2003)
  - Children between ages 8 and 12 with mild dyslexia have lower positive well-being scores and were unhappier and more anxious compared to their peers (Casey, Levy, Brown & Brooks-Gunn 1992).
The Big Picture, cont.

- Frustration and prolonged effects on a wide range of academic subjects can lead to (cont.):
  - Effects on peer relationships
  - Acceptance and adjustment in social circles
  - Underachieving pupils perceived as "lazy" or "unmotivated" by teachers and parents. Pain of failure to meet expectations.

The Big Picture, cont.

- Stress and anxiety accentuate information processing difficulties
  - Children with dyslexia may have trouble sequencing events

- Effect on family
  - Non-dyslexic children become jealous of time, attention, money spent on dyslexia intervention.
  - Dyslexic children act out against the achieving child.

Targeting Anxiety & Stress

The Partners Resource Network advocates a DE-STRESS model for targeting the stress and anxiety associated with dyslexia.
DE-STRESS Model

- **DEFINE**: Professionals working with the person need to analyze and understand the way dyslexia presents in that individual.
- **EDUCATE**: Education for the child, parents and teacher.
- **SPECULATE**: Teach individuals with dyslexia to look ahead and to anticipate problems they may encounter as they face new challenges.

DE-STRESS Model, cont.

- **TEACH**: Teach strategies, techniques and approaches that maximize success and minimize frustration.
- **REDUCE THE THREAT**: Create learning environments that reduce threats.

Additional Thoughts

- Be aware that some problems, such as procrastination for studying for a test or reading, may reflect the anxiety associated with reading.
- Help the child with dyslexia have a sense of commitment, control and challenge when dealing with stressful situations (Dr. Gilda Palti).
  - Commitment: finding learning situation meaningful
  - Control: child feels as though they can influence course of events
  - Challenge: change is the norm of life. A stressful situation can be an opportunity and incentive for growth.
Bibliography


Bibliography, cont.

- The Dyslexia-Stress-Anxiety Connection. Published on Partners Resource Network: http://www.partnersres.org/dyslexianxiety