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Diagnosing Dyslexia

Upon completion of this section, you will

- Learn the components of a diagnostic evaluation for dyslexia
- Be familiar with the diagnostic tests available
- Be able to identify the indicators of dyslexia across the age span

This guide is intended for those of you who are new to the world of dyslexia. We highlight the areas that you will want to evaluate in order to make a diagnosis of dyslexia.

The basics to evaluation include a comprehensive case history, an observation of speaking and reading, and a specific battery of assessments targeting spoken language, phonological processing (including awareness, memory, and rapid automatic naming), reading, spelling, and writing. We look for strong language comprehension skills with poor performance in phonological processing, decoding text, reading fluently, spelling, and/or writing that is not in concert with the individual's predicted performance.

You will need to help the individuals with dyslexia and parents understand that reading, spelling, and writing are language-based skills. Examples of how an individual's phonological awareness and knowledge of orthography, vocabulary, morphology, semantic relationships, and mental orthographic images contribute to the reading and spelling process will help explain the relationship between oral and written language.

• The Case History • Observation • Assessments • Language • Phonological Awareness • Rapid Naming or Word Fluency • Reading Fluency • Reading Comprehension
• Spelling • Writing • Multicultural Considerations • School Issues • Dyslexia Diagnosis

THE CASE HISTORY—PRE-ASSESSMENT INFORMATION

If you don't already have a case history template, here are some areas to address. The case history form should include questions on:

- personal information
- birth complications
- languages spoken
- medical history
- educational history
- family history of dyslexia or suspected dyslexia, learning disabilities, speech and language delays or other factors that may be related.

You will want to review the individual education plan (IEP) if there is one.

Reports from other professionals will also be pertinent to your evaluation and will aid in selecting assessment tools that will not only assist in the accurate diagnosis of dyslexia, but will also assist in possibly identifying concomitant disorders and in making accurate recommendations.

OBSERVATION OF COMMUNICATION SKILLS

A conversation with your client or student will be very beneficial. This informal observation of communication serves several purposes; getting information about the speech, language and pragmatic language in an informal setting; giving information about what will take place during the testing; and developing a rapport to make the assessment process as relaxed as possible. By the time a child is in second grade, sometimes earlier, they may be aware that they are having a challenging time learning to read. Discussing these challenges with the individual is invaluable. The questions, "Do you like to read?" and "What have you read?" often provide additional valuable insights. Asking about favorite classes/subjects and least favorite classes/subjects also provides information about strengths and weaknesses.

BATTERY OF ASSESSMENTS TARGETING LANGUAGE AND READING

Prior to testing, it is common practice to rule out any hearing acuity difficulties. The following list outlines the foundational areas to be tested to make a diagnosis of dyslexia:

- Language
- Phonological awareness
- Rapid naming/word fluency
- Reading fluency
- Reading comprehension
- Spelling
- Writing

LANGUAGE

We know that oral language provides the foundation for the development of reading and writing and individuals with oral language problems frequently develop disorders of literacy. You will want to include a test of language that will give information about an individual's receptive and expressive language abilities, language processing, morphological skills, and pragmatic language skills. Typically, an individual with dyslexia will not have a concomitant language disorder, especially when they are younger, although challenges with verbal expression may be present. By definition, an individual with dyslexia has average receptive language skills. However, the inability to read and write often prevents an individual from using language at higher levels and as a result vocabulary development may be compromised. Over time, dyslexia limits reading, which may also artificially depress IQ scores. A formal assessment of language with a standardized test may also be accompanied by an informal assessment such as a language sample and questions to parents and teachers about an individual's pragmatic language skills.

PHONOLOGICAL AWARENESS

The most distinguishing feature of dyslexia is poor phonological awareness, which manifests in an inability to identify and blend together individual phonemes in words. Clinical expectations of phonemic awareness vary depending on an individual's age. Individuals who have difficulties in phonemic awareness may have difficulties producing rhymes and recognizing words that rhyme, counting phonemes in a word (segmenting), deleting, adding, or moving sounds around in a word (elision), and hearing sounds in isolation and blending them together to form a word (blending).

The lack of phonemic awareness had been found to be a high predictor of a reading disability. Phonemic awareness is often confused with phonics and it is important to make sure that you have a clear understanding of each and do not confuse the two. The systematic teaching of phonemic awareness is critical for individuals diagnosed with dyslexia. Phonological awareness skills can be taught at any age and have been shown to improve decoding, reading fluency, reading comprehension, and spelling.

RAPID NAMING OR WORD FLUENCY

Another strong indicator of dyslexia is rapid naming, also called word fluency. Rapid naming is the ability to name symbols, words, or pictures rapidly. This discriminating skill is based on speed, not accuracy. Poor readers are usually able to name symbols, words and pictures accurately, but they are characteristically slower than skilled readers. They may have more difficulty naming words than naming numbers. Another indicator of a reading disability is difficulty reading nonsense words which would indicate difficulty with decoding as it relates to phonics and phonemic awareness. When reading a nonsense word such as *fornalask,* an individual with difficulties with the phonemic awareness skill of blending may know the phonics of how to decode each sound correctly, but may not be able to blend the sounds together to produce the nonsense word.

READING FLUENCY

Reading fluency is the combination of the score of the accuracy of reading and the rate (speed) of which one can read. Reading fluency may be assessed in children who can read short paragraphs or longer reading passages. It is a measure of the average number of words read correctly per minute. Poor reading fluency indicates possible problems with phonemic awareness, decoding skills, comprehension, or vocabulary. A child who reads accurately but not fluently (at a slower rate) is dyslexic.

READING COMPREHENSION

Reading comprehension is the understanding of the printed word. When reading short paragraphs, children with dyslexia may gain just enough content to score well on reading comprehension assessments. However, reading comprehension becomes more difficult with increasingly longer reading material. While some people with dyslexia may be able to read fluently, they may still struggle with reading comprehension. For individuals who are fluent readers an assessment should be made of silent reading comprehension as well as oral reading comprehension.

Some dyslexic individuals with concomitant language disorders may have good comprehension for literal (who, what, when, where) type information, but may have great difficulty comprehending inferential (why, how) information. Comprehension questions should assess both types of information.

SPELLING

Evaluating spelling proficiency can provide valuable diagnostic information about phonemic awareness and language in general. Spelling ability provides insight into other types of knowledge necessary for written communication. Poor spelling may reveal weaknesses in one or more of the following linguistic components:

- Phonemic awareness
- Orthographic knowledge
- Semantic knowledge
- Morphological knowledge

Poor spelling may also be a possible indicator of a hearing deficit or auditory processing disorder.

WRITING

Writing, in general, is the most complex form of language. In many cases, a child's language difficulties are most pronounced in his/her writing. Deficiencies such as spelling errors, syntactic and semantic errors, morphologic errors, omissions of words or word endings, and general incongruities may be present. In general, assessment for all types of writing should focus on:

- Productivity: How many sentences are there? How many clauses? How many paragraphs?
- Complexity
- Appropriateness for audience and topic
- Cohesiveness
- Mechanics

- Analytic aspects

More specific analysis of writing takes different forms depending on the audience and the purpose of the writing. Other types of writing that may be further assessed in older students include: narrative writing, expository writing, and persuasive writing.

OTHER—MULTICULTURAL CONSIDERATIONS

Cultural-linguistic background must be taken into consideration during an assessment of literacy. Narrative conventions vary across cultures. Standards of reading and writing in American English are not necessarily the same, or even similar, in other languages. When English is not the primary language spoken in the home, problems may develop with language and therefore learning to read.

Also, some children may be from homes where the parents are not highly educated and the children may not be exposed to literature that facilitates the development of reading and writing.

OTHER—SCHOOL ISSUES

School issues can include: behaving very quietly in the classroom to avoid being selected to read aloud, selecting books to read that have been read aloud to them, covering up difficulty of reading by excelling in other ways, or acting out. It is better to be bad than to feel stupid. Another flag is that a parent is doing homework or it takes the child a long time to finish homework. Last, and importantly, despite extra help in the school, the child is still not learning to read.

MAKING THE DIAGNOSIS OF DYSLEXIA

As with making any diagnosis, you will triangulate the data. Using the information from the case history, your informal observation and conversation, and the standardized measures, you will identify evidence of difficulty with phonological processing (ie. phonological awareness, phonological memory, or rapid automatic naming), poor decoding, poor reading fluency, poor reading comprehension, and/or spelling and writing difficulties. Working memory may be compromised. In addition, verbal expressions difficulties may be present, such as word finding and formulating sentences. You'll want to identify strengths and weaknesses. You will want to consider other factors as well such as difficulty completing homework assignments or projects for work, poor time management and organizational skills. Remember that dyslexia can affect learning in other subjects as well.

If the individual has good spoken language comprehension skills (poor spoken language comprehension would indicate a diagnosis of reading disorder), but phonological processing (i.e., phonologcial awareness, phonological memory, and/or rapid naming); reading accuracy, fluency, and/or comprehension; spelling; and/or writing skills fall below expectations based on other cognitive abilities; and there has been effective instruction, you are most likely looking at someone who is dyslexic. Know that regardless of the individual's age, he or she can learn new skills in these areas of weakness using a structured literacy approach. Key to designing an effective intervention program depends on a accurate diagnostic assessment. Don't delay. Start today!
