

Dyslexia Update: Specific Reading Disability

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Developmental dyslexia is characterized by an unexpected difficulty in reading in children and adults who otherwise possess the intelligence and motivation considered necessary for accurate and fluent reading. Dyslexia represents one of the most common problems affecting children and adults; in the U.S., the prevalence of dyslexia is estimated to range from 5%-17% of school-age children with as many as 40% reading below grade level. It is the most common and most carefully studied of the learning disabilities, affecting at least 80% of all individuals identified as learning disabled. Good evidence now indicates that dyslexia affects boys and girls comparably. Dyslexia is a persistent, chronic condition that stays with the individual his or her entire life. It is both familial and heritable; about half of children who have a parent with dyslexia as well as half of the siblings of dyslexics and half of the parents of dyslexics may have the disorder.

Current evidence indicates that the central difficulty is within the language system and more specifically within the component of the language system termed phonology that has to do with getting to the sound structure of speech, i.e., the sounding out of words. Results from large and well-studied populations with reading disabilities confirm that, in young school-age children as well as in adolescents, their primary deficit is in this area. Evidence from brain imaging reveals a neurobiological basis for learning disabilities with a difference in brain activation between good and poor readers. We see a pattern of relative under-activation in the back of the brain, coupled with relative over-activation in front of the brain that may represent a neural signature for reading difficulties experienced by dyslexic readers. At all ages, dyslexia is a clinical diagnosis: the clinician seeks to determine through history, observation and psychometric assessment, if there are: 1) unexpected difficulties in reading (i.e., difficulties in reading that are unexpected for the person's cognitive capacity as shown by his/her age, intelligence or level of education or professional status) and 2) associated linguistic problems at the level of phonologic processing. There is no one single test score that is characteristic of dyslexia.

The management of dyslexia demands a life-span perspective; early on, the focus is on remediation of the reading problem with reading intervention programs that have proven to be effective emphasizing phonemic awareness, phonics, fluency training, vocabulary and comprehension. The management of dyslexia, especially in college and graduate school, is primarily based on accommodation rather than remediation. For these young adults with dyslexia, the provision of extra time is an essential accommodation; it allows them the time to decode each word and to apply their unimpaired higher-order cognitive and linguistic skills to the surrounding context to get at the meaning of words that they cannot entirely or rapidly decode. With such accommodations, many students with dyslexia are now successfully completing academic pursuits in a range of disciplines, including law and medicine. In fact, dyslexics are over represented in the top ranks of people who are unusually insightful, who bring a new perspective and who think out of the box.

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