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FALL 2024

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The Kids' Issue

Closing the Gap in
Pediatric Eye Care



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AMERICAN OPTOMETRIC ASSOCIATION

Identifying Reading Difficulties in Children

How to differentiate between various visual problems and provide timely and effective intervention.

For children, reading is a basic skill that is crucial for language development, educational success and future learning. Due to digital modernization and communication via text and email, the ability to extract meaning from visual text is fundamental to social interactions. It also expands vocabulary and critical-thinking skills, and can introduce individuals to diverse perspectives and new ideas. That's why children who have difficulties with reading may have lifelong consequences not only in the ability to learn in the present, but also to succeed in their career and social interactions as adults. Children with reading difficulties may suffer from poor self-image, reducing their desire for social interactions and ultimately impacting their personal development and mental health. As doctors of optometry, it is crucial to recognize that these difficulties can stem from various underlying issues, including visual problems such as oculomotor dysfunction, as well as auditory and cognitive processing disorders.

TESTING TIP

Repeat NPA and NPC three to five times each, as the initial measurement may be within norms, but repeat measures may elicit reduced findings due to fatigue.

Also consider retesting these at later points in the visit, as the child may test normal at the beginning of the exam but have deficits after extended visual tasks.

Dyslexia vs. Visual Disorders

Often people who have trouble reading assume they have dyslexia; however, there are many other types of learning disabilities and cognitive processing disorders as well as vision disorders with overlapping symptomatology that may be mis- or undiagnosed. Symptoms of dyslexia include difficulty understanding, comprehending and retaining what one reads. This can lead to re-reading, slowed reading speed and difficulties learning letters and their sounds, which may cause some children to also have difficulties with spelling, writing, word pronunciation, math and organizational skills.

While vision is fundamental to being able to see the text comfortably and clearly, reading comprehension is primarily an auditory processing and language skill. When we move our eyes across a line of text, our visual system sees the letters but our auditory system "hears" the sounds of the words and our language system provides the meaning. If a child has trouble auditorily



**See the problem.
Be the change.**

JOIN THE
COLLECTIVE



The Myopia Collective is an initiative led by the American Optometric Association (AOA) and CooperVision® to mobilize the profession of optometry and its allies to disrupt the status quo and advance the standard of care for children with myopia.¹

Participation is simple and free of charge. By joining, you commit to taking action to help slow the progression of myopia in children. You will receive updates and information about the Collective and its work in the fight against myopia, and gain access to educational opportunities and marketing resources offered by the Collective.

GET INVOLVED. THE EYES OF THE FUTURE ARE ON YOU.

1. Resolution: The standard of care for Myopia Management by Optometrists. World Council of Optometry (2021, May 17). <https://worldcouncilofoptometry.info/resolution-the-standard-of-care-for-myopia-management-by-optometrists>

CLINICAL CARE



Children with reading difficulties may suffer from **poor self-image**, reducing their desire for social interactions and ultimately impacting their **personal development** and **mental health**.

differentiating the sounds of bar, bark and barn due to a phonological processing deficit, they may have trouble visually differentiating the words as well. Therefore, dyslexia is characterized by inaccurate word recognition and would not be characterized by more common visually derived reading complaints such as blur, double vision, losing one's place while reading, words moving on the page while reading, or getting fatigue or headaches with reading. Understanding this difference is critical, as many children have difficulties with reading due to an underlying visual disorder that can be remediated—and is not dyslexia.

How to Help Kids Overcome Reading Challenges

Fundamentally, to be able to read, you must be able to see the text. Therefore, when examining a patient with reading problems, it is important to evaluate near visual acuity monocularly as well as binocularly. Uncorrected refractive error is a common cause of near blur or fatigue that will impede reading performance and is simple to remediate. If the child is 20/20 or better with each eye at near and is clinically emmetropic or has age-appropriate hyperopia as confirmed by cycloplegic retinoscopy, then an underlying oculomotor dysfunction should be ruled out.

The most common oculomotor dysfunctions include accommodative and convergence disorders (insufficiency, infacility/ill-sustained or spasm). Testing should include cover test, monocular near point of

accommodation (NPA), monocular flipper testing, binocular near point of convergence (NPC), fusional vergences and vergence facility testing at near. Other oculomotor assessments crucial to reading should include saccadic testing to ensure the eye movements are accurate and fast and have adequate endurance for prolonged reading from word to word and line to line, as well as vestibular-ocular reflex (VOR) assessment. Many kids compensate for poor oculomotor skills by using their heads to move along the line of text instead of their eyes; a poor VOR will cause one to lose one's place while reading if their head is moving. If an oculomotor deficit is found, home-based and/or in-office vision therapy should be employed to remediate the deficit and improve reading success. Oculomotor skills are dynamic entities, and while glasses may improve some symptoms and endurance of reading prior to symptom onset, glasses do not remediate the oculomotor deficit.

For a child with a normal comprehensive vision and oculomotor examination, it is important that they get a comprehensive educational or neuropsychological examination as well as auditory processing evaluation to evaluate their hearing, receptive and expressive language skills, phonological skills and auditory processing skills. By conducting thorough vision assessments, implementing tailored management strategies and referring to other professionals when appropriate, we can help children overcome their reading challenges and reach their full potential both academically and personally.

Written by Jacqueline Theis, O.D., member of the AOA's Vision Rehabilitation Committee.

Disclaimer: The information contained in this article represents the opinion of the author and not the AOA. These are not clinical practice guidelines, nor has the evidence been peer-reviewed. There are additional aspects to this topic that may not be presented, or considered, based on the specifics of the case.

Find resources for doctors and patients and join the AOA's Vision Rehab Advocacy Network to stay updated on the AOA's vision rehabilitation advocacy efforts and help promote vision rehabilitation on local, state and federal levels at aoa.org/vision-rehab.