

An Eye on Reading

A very common entering patient complaint is inefficiency when reading and specific symptoms include, loss of place, difficulty concentrating, and reading slowly. Eye movement disorders have been most often associated with reading complaints. Because eye movement disorders impact patients when reading, it is helpful for the optometrist to have a basic understanding of the reading process when evaluating eye movements. By combining an understanding of reading ability with diagnostic and management strategies for eye movement problems the optometrist can provide optimal care to patients.

Introduction and Overview

- I. Common Reading Symptoms
 - a. Symptom patterns in children and adults
- II. General Approach to the Course
 - a. Differentiating visual and language components of reading
 - b. Diagnostic strategy for saccadic dysfunction
 - c. Treatment strategies for saccadic dysfunction
 - d. Sample Cases

An Overview of Reading for the Optometrist

- I. Basic Components and Stages of Reading
 - a. What makes a good reader?
 - b. Stages 1-6 of reading
 - c. Reading demands by grade level
- II. Component skills of reading
 - a. Phonological awareness
 - b. Alphabetic principle
 - c. Fluency
 - d. Vocabulary
 - e. Comprehension
- III. Informal Reading Assessment
 - a. Types of tests
 - b. Reading levels
 - c. Word lists versus connected text
- IV. Assessing Reading Rate and Accuracy
 - a. Oral vs silent reading
 - b. Normative data
 - c. Determining the correct reading level
 - d. Miscue analysis
 - e. Omission errors
 - f. Substitution errors

- g. Examples

Clinical Evaluation of Saccadic Eye Movements

- I. Elicit Saccadic Dysfunction Symptoms
 - A. Typical clinical presentation of saccadic symptoms
 - B. Written Questionnaires.
 - C. Verbal questions to
 - 1. Patient
 - 2. Parent
 - C. Uncover symptoms while testing
- II. Observational tests
 - A. SCCO 4+ scale for saccades and pursuits
 - B. Maples NSUCO Saccade/Pursuit
 - C. Why test pursuits
- III. Visual Tracing Test
- IV. King Devick
- V. Developmental Eye Movement Test (DEM)
 - A. Test Construct
 - B. Research
 - C. Administration
 - D. Scoring
 - E. Key observations
- VI. Eye Movements When Reading
 - a. Visagraph Readalyzer
 - b. Oral Reading
 - c. Identify reading level
 - d. When to choose silent versus oral reading
 - e. Key components
 - f. Interpreting results
- VII. Differential Diagnosis
 - a. Rule out pathology
 - b. Primary oculomotor dysfunction
 - c. Oculomotor dysfunction in child with visual processing deficit
 - d. Oculomotor dysfunction and reading disability
 - e. Primary reading disability
 - f. Role of attention deficits

Oculomotor Dysfunction Management Strategy

- I. OMD defined
 - A. Test result
 - B. Symptoms
 - C. Etiology
 - D. Natural course and history
- II. General Treatment Strategy
 - a. Correct Ametropia
 - b. Treat accommodative or vergence dysfunction first or simultaneously
 - c. The role of visual processing deficits
 - d. Other factors
- III. OMD in a young child with visual processing disorder
 - a. Impact on treatment strategy
 - b. Gross motor and low-level VMI VT first or simultaneously
 - c. VT with motor/finger support
- IV. Pursuit VT before or simultaneous with low-level saccade VT
- V. Peripheral Awareness VT
 - A. Office VT example
 - B. Home VT example
- VI. Gross to fine
 - A. Permit / use motor support in early stages then d/c
 - B. Permit head movements early on then d/c
 - C. Minimal figure ground to complex figure ground
 - D. Spatial judgment easy / predictable to variable
 - E. Sample VT procedures that illustrate A – D
- VII. Integrate saccades/pursuits with accommodation and vergence
- VIII. Integrate visual processing speed and span VT with saccade
 - A. VT computer programs good
 - B. Flash cards
- IX. Methods of loading saccadic VT procedures
 - C. Loading promotes automaticity
 - D. Cognitive load
 - E. Motor load

X. Reading therapy for rate and fluency

XI. Case Examples

- A. Straightforward OMD with normal RAN
- B. No OMD per DEM. Clearcut deficient RAN
- C. Mixed case of OMD, poor RAN, probable dyslexia, overall motor delay.