
Oculomotor Dysfunction



Oculomotor Dysfunction occurs when there is the absence or defect of controlled, voluntary, and purposeful eye movement. As you might imagine, accurate and well established oculomotor skills are critical when reading, writing, copying information, working on art projects, finding an object in a background, playing sports and many other activities we perform in our highly visual world.



Oculomotor Dysfunction is a common vision problem and occurs in people of all ages, both children and adults. Oculomotor Dysfunction affects reading, sports, balance, depth perception as well as most visually related tasks. Oculomotor Dysfunction is not a condition that is "out grown". Instead, over time, an individual develops compensatory techniques such as turning of the head while reading, rather than the head remaining stationary while the eyes move across the page of text.

Oculomotor Dysfunction (OMD) is also known as Ocular Motility Dysfunction and is characterized by a deficiency in one or more of the following visual skills:

- Fixation: the ability to hold the eyes steady without moving off the target
- Saccadic eye movements: the ability of the eyes to accurately jump from one target to another
- Pursuit eye movements: the ability of the eyes to accurately follow a moving target

Hallmark symptoms of Oculomotor Dysfunction are:

- Difficulty reading
- Poor reading speed
- Poor reading comprehension

One of the effects of Oculomotor Dysfunction is reading difficulty. However, it is important to note that Oculomotor Dysfunction is not the same thing as Dyslexia. Oculomotor Dysfunction is an anomaly of the oculomotor system, while Dyslexia is a language-based disorder.

Oculomotor Dysfunction and Dyslexia are often times confused because the symptoms can look very similar. Typical symptoms of Oculomotor Dysfunction include a reluctance or avoidance of reading, poor reading comprehension and frequently rereading the same word or sentence. Often times, the individual will use their fingers or a reading strip while reading. It is important to note that this behavior is developmentally normal at a specific age. However, as a child develops, improved visual skills are expected to emerge. If not, Oculomotor Dysfunction can negatively impact reading abilities and academic progress.

The symptoms associated with Oculomotor Dysfunction include, but are not limited to, the following:

- Difficulty visually tracking and / or following moving targets (objects)
- Loss of place, repetition, and / or skipping words or sentences when reading
- Inaccurate or inconsistent work. Diminished accuracy. Performance can vary day to day or throughout the school day
- The need to use a finger, reading strip or other form of a marker to avoid loss of place when reading
- Moving the head, rather than the eyes, when reading

- Words blurring, double vision, words "moving" or "floating" on a page
- Poor attention span, loss of concentration, easily distractible
- Difficulty copying information from the white board to paper
- Difficulty with math
- Requires more time, than do same age peers or classmates, to perform the same visual tasks
- Performs poorly on timed tests. Difficulty sustaining adequate pursuit or saccadic eye movement while under cognitive demands
- Difficulty understanding what has been read
- Difficulty remembering what has been read (reading comprehension)
- Difficulty coordinating head / body and eye movements (example: hand / eye coordination)
- The need for tactile / kinesthetic reinforcement techniques while performing oculomotor activities
- Headaches
- Abnormal postural adaptations (head or body repositioning) or abnormal working distances
- Eyes feel tired or hurt after reading, rubbing of the eyes, covering one eye while reading
- Poor coordination (clumsiness), difficulty with sports
- Poor judgment in depth, inconsistent or poor depth perception
- Spatial disorientation, dizziness, motion sickness

It is important to note that children in particular do not usually report any vision problems or symptoms. They are unaware that they are having vision issues and think that they "see like everyone sees". These types of vision problems rarely resolve if left untreated. The individual simply learns and implements compensatory techniques, which becomes more and more difficult as the academic workload increases and becomes more complex. It is not uncommon to see a child who excelled in elementary school exhibit declining levels of academic performance in junior high school, high school or college.

So how is Oculomotor Dysfunction diagnosed? Oculomotor Dysfunction should be diagnosed and treated by an eye doctor who has been residency trained in neuro-optometry, binocular vision and vision therapy. General, primary care optometrists are not trained to accurately identify or diagnose Oculomotor Dysfunction or binocular vision abnormalities. That's why it is not uncommon for a child to have an eye exam with a general, primary care optometrist and be told that "everything is normal" you see 20/20?and have underlying vision problems of Oculomotor Dysfunction or binocular vision deficits.

An optometrist, such as Dr. Judson, residency trained in neuro-optometry, binocular vision and vision therapy will use qualitative chairside testing and observation as well as quantitative (measurable) standardized tests. Quantitative testing is a series of tests that contain a database of age and grade-norms in order to accurately evaluate the results is identify and diagnose Oculomotor Dysfunction as well as binocular vision function.

Treatment for Oculomotor Dysfunction usually includes a treatment program of vision therapy. Vision therapy involves using lenses, prisms, and specific eye and brain activities designed to improve fixation and saccadic eye movements; integrate oculomotor skills with vergence and accommodative systems; integrate oculomotor skills with information processing.

Anyone who is experiencing symptoms of Oculomotor Dysfunction is encouraged to schedule an evaluation with Dr. Judson. A comprehensive, binocular vision assessment is the only way to accurately identify and diagnose Oculomotor Dysfunction as well as other binocular vision deficits.

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