



Have you ever used the phrase, “Do you see what I mean?” This phrase acknowledges that, in our minds, seeing is equated with understanding. Seeing is our dominant sense and our primary source for gathering information.

Eyesight vs. Vision

Eyesight tells only how clear the image is. Vision is more than clarity. It is the brain’s ability to visualize, understand and apply the information that comes in through the eyes: the learned ability to give meaning to what is seen. From birth, vision works together with the other senses to lay the foundation for cognition, behavior, personality and learning.

What is a Learning-Related Visual Problem?

An estimated 25% of school-age children have vision problems affecting learning. Students can have difficulties in any of a number of areas. Maybe their two eyes don’t work together to track or focus. Perhaps the eyes and hands do not coordinate. These and other problems can have a profound effect on how they learn. Symptoms of visual problems include:

- Eyes that are red or tear when stressed
- Avoidance of academics, decreased comprehension, slow reading/writing
- Losing place, omitting words, skipping lines, confusion of similar words
- Discomfort, fatigue, headaches or short attention span when doing schoolwork

Vision Problem and/or Disability?

Since vision and learning are intimately connected, a vision problem can be easily mistaken for a learning or attention problem. Undetected and untreated vision problems can elicit some of the very same signs and symptoms commonly attributed to “Attention Deficit Disorder” (ADHD), learning disabilities and dyslexia. A child with impulsivity, hyperactivity, distractibility, poor reading, trouble learning math, and illegible handwriting could easily be misdiagnosed with one of these disabilities. In some instances these conditions co-exist and treating one aspect of the problem masks the other. To learn more, go to <www.children-special-needs.org>.

Convergence Insufficiency

David Granet, MD and researchers at the Children’s Eye Center, University of San Diego, recently uncovered a relationship between a common eye teaming problem called convergence insufficiency (CI) and ADHD. In CI, the eyes tend to drift outward when a person is reading or doing close work. When eyes drift out, a person may have double vision. To prevent seeing double, an individual attempts to make the eyes turn back in or converge, which then interferes with the ability to read and work comfortably at near.

In the above study, children with convergence insufficiency were three times as likely to be diagnosed with ADHD as children without the disorder. Does convergence insufficiency make ADHD worse, or is convergence insufficiency misdiagnosed as ADHD? In either case, patients diagnosed with ADHD should be evaluated for convergence insufficiency and treated accordingly. To learn more about convergence insufficiency, go to <www.convergenceinsufficiency.org>.

Visual Function and Autism

Most individuals diagnosed with autism use visual information inefficiently. They frequently have difficulty maintaining visual attention, have eye movement disorders and eye teaming problems. Some of the hallmark behaviors of autism, such as poor eye contact, staring at spinning objects or lights, side viewing, and difficulty attending, are signs of visual problems.

Autistic individuals also often have problems coordinating their central and peripheral vision, ignoring peripheral vision, and fixating on a central point of focus for excessive periods of time. Poor integration of central and peripheral vision can lead to difficulties in processing and integrating visual information. Motor, cognitive, speech, and perceptual abilities can also be affected when visual processing is interrupted.

A Comprehensive Vision Exam

When children are struggling, a thorough exam including the following is imperative.

- A complete developmental and health history
- A measurement of how clearly the patient can see at a distance and up close: nearsightedness, farsightedness, or astigmatism.
- An assessment of eye focusing, eye teaming, and eye movement abilities (accommodation, binocular vision, ocular motility)
- An examination of the health of the eyes

Methods for evaluating the vision of non-verbal individuals vary depending upon levels of emotional and physical development. Many developmental optometrists are experienced in examining people with autism, learning disabilities and other developmental delays. Patients are sometimes asked to perform specific activities while wearing special lenses. The doctor observes any postural adaptations and compensations the patient makes when sitting, walking, standing, or catching and throwing a ball. Such tests help to determine how well a patient is using vision, and what can be done to improve performance.

Following complete testing the doctor reviews all findings with the patient and/or parent and provides consultation and recommendations regarding any needed treatment.

Treatment of Learning-Related Visual Problems

Depending on the results of testing, an optometrist may prescribe glasses to help the patient compensate for nearsightedness, farsightedness, astigmatism or other problems. He/she might also recommend a program of Vision Therapy to increase visual arousal, help organize visual space, improve eye movements, gain more efficient eye coordination, or enhance other important visual abilities. Individualized goals are directed toward resolving underlying visual problems that interfere with reading, learning, and behavior, as vision therapy is not an independent treatment for learning disabilities, attention deficit disorder or autism.

Find a Doctor

Do you know someone who could benefit from a comprehensive vision exam and vision therapy? If so, contact one of the sponsoring organizations. You will be happy you did.