

## VISION AND AUTISM

Autism is a neurobiological disorder that is described as a behavioral syndrome. Individuals with autism have difficulty with processing and responding to information from their senses, and with communication and social interaction. Vision problems are very common in individuals with autism. Symptoms of autism may include visual components such as lack of eye contact, staring at light or spinning objects, fleeting peripheral glances, side viewing and difficulty attending visually. Other symptoms of autism include lack of reciprocal social interaction, delays in development and a hypo or hyper-response to sensory information. Symptoms appear over time as the child shows a pattern of developmental problems.

Some persons with autism use visual information inefficiently. They have problems coordinating their central and side vision. When asked to follow an object with their eyes, they usually do not look at it directly. They scan or look off to the side at the object. These individuals may have difficulty maintaining visual attention. Eye movement disorders and strabismus are also common.

Many persons with autism are tactually or visually defensive. Tactually defensive persons are over stimulated by input through touch. They are always moving and wiggling. They avoid contact with texture. Visually defensive persons avoid contact with specific visual input and may have hypersensitive vision. They have difficulty with visually "holding still" and frequently rely on a constant scanning of visual information in an attempt to gain meaning.

As a result of poor integration of central and peripheral visual input, individuals with autism may have difficulty processing information. Once central focus is gained, they ignore side vision and remain fixated on a task for excessive periods. Since the visual system relates to motor, cognitive, speech, and perceptual abilities, these areas may also be affected when the visual processing is interrupted.

The vision evaluation of persons with autism varies depending on their developmental, emotional and physical level. After a thorough patient history, a comprehensive vision examination is attempted. The examination includes but is not limited to, an evaluation of: visual acuity, eye tracking and fixations, depth perception, color vision, eye teaming and focusing, the presence of nearsightedness, farsightedness and /or astigmatism, eye health and visual fields.

Testing may also be performed using lenses and/or yoked prisms while the patient does specific activities such as walking, ball catching and throwing. Observation of postural adaptations and compensations while the patient is sitting, walking and standing with and without the lenses and prisms is often conducted.



Depending on the results of testing, lenses to compensate for nearsightedness, farsightedness and astigmatism, with or without yoked prism may be prescribed. A progress examination may be scheduled in three to five weeks to evaluate subjective changes and to repeat portions of the vision examination as needed. A consultation may also be scheduled to discuss the benefits of vision therapy. Vision therapy activities are used to stimulate general visual arousal, eye movement and the central visual system. The goals of the treatment program using lenses, prisms and vision therapy are to help the individual organize visual space and gain peripheral stability so that he or she can better attend to and appreciate central vision. In addition, treatment is directed at gaining efficient eye teaming and visual information processing.

Treatment programs are coordinated with the patient's primary care physician and others who may be participating in the multidisciplinary management of the patient.

Members of the College of Optometrists in Vision Development (COVD) are optometrists who specialize in examining children and adults with developmental disabilities, including autism. Fellows of the College are certified in the diagnosis and treatment of learning related vision problems. For further information, contact COVD or consult with a COVD member optometrist.

This informational paper was produced by the College of Optometrists in Vision Development, which board certifies qualified optometric physicians in vision therapy. For further information, see our website, [www.covd.org](http://www.covd.org).

WP12 Rev 1/2/08 ©2008