



# NEURO- OPTOMETRIC REHABILITATION

*A vital part of your  
overall recovery.*

Brain injury from a traumatic event like a concussion, or medical condition such as stroke or other neurological disease often impacts daily function.

Vision problems may be overlooked during initial evaluation as symptoms may not be present until days or even weeks following the incident. Therefore, visual deficits related to traumatic brain injury and other neurological disorders should be evaluated by a Neuro-Optometric Rehabilitation Optometrist, a doctor who has special expertise in the assessment and treatment of visual disturbances associated with damage to the central nervous system.

## ABOUT BRAIN INJURIES & VISION

Acquired Brain Injury (ABI) is an all-encompassing term for damage to the brain. ABI can have a profound effect on activities of daily living. Some commonly reported symptoms include visual disorders, speech impairments and general motor dysfunction.

An ABI can be the result of a medical condition such as stroke, tumor, aneurism, meningitis, multiple sclerosis, cerebral palsy, or other neurological disease. Traumatic Brain Injury (TBI) is also a common example of ABI. It is caused by an external force, such as a blow or jolt to the head that disrupts the function of the brain.

According to the U.S. Centers for Disease Control and Prevention, falls are the leading causes of TBIs in the United States, followed by being struck by an object, along with motor vehicle accidents. Sports and recreational activities also contribute to many traumatic brain injuries among people of all ages. Although some sports have higher instances of concussion — such as football, ice hockey, and soccer — concussions can happen in any sport or recreational activity.



*Enhancing Neurological Recovery  
Through Vision Rehabilitation*

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## COMMON VISION PROBLEMS & SYMPTOMS FOLLOWING A BRAIN INJURY

There is often an interruption in communication between the eyes and the brain following a TBI. Studies show that 90 percent of TBI patients suffer from visual dysfunctions such as those shown below. Following a stroke, there are often problems with eye tracking and/or peripheral vision, which can affect mobility, balance, and tasks such as reading.

Vision problems that are left untreated can have serious consequences. **If you notice any changes in your vision following a head injury or due to any neurological medical condition, don't ignore them and seek evaluation by a Neuro-Optometric Rehabilitation Optometrist.**



BLURRED VISION



SENSITIVITY TO LIGHT



REDUCTION OR LOSS OF VISUAL FIELD



HEADACHES WITH VISUAL TASKS



READING DIFFICULTY



DIFFICULTIES WITH EYE MOVEMENTS

## WHAT IS NEURO-OPTOMETRIC REHABILITATION?

Neuro-optometric rehabilitation is an individualized treatment regimen for patients with visual disorders related to developmental syndromes, stroke, brain injury and neuro-degenerative disease.

Optometrists skilled in Neuro-Optometric Rehabilitation Therapy have pursued extended education and training, emphasizing the use of specially designed lenses, prisms, and vision therapy rehabilitation regimens.

During an examination, a Neuro-Optometric Rehabilitation Optometrist will examine complex aspects of the visual process. Included are tests for ocular movements and coordination, posture, spatial awareness, integration with other sensory systems such as the vestibular system (the parts of the inner ear and brain that help control balance

and eye movements), visual memory, and motor output (a muscle, nerve or center that effects movement). Since every injury is unique, the treatment plan strategy is customized to the individual's needs. Clinical experience and research studies document the improved performance of patients who have completed a vision rehabilitation program.

Often one type of rehabilitation is not enough to address all of an individual's need. An interdisciplinary, integrated team approach can play a vital role in the rehabilitation of patients with concussions, stroke or other neurological disorders. In addition to optometrists, rehabilitation team members may include nurses, physical and occupational therapists, speech-language pathologists, physical medicine and rehab physicians, neurologists, neuropsychologists, audiologists, ophthalmologists, and others.

For more information about Neuro-Optometric Rehabilitation, including where to find a Neuro-Optometric Rehabilitation Optometrist near you, visit [www.noravisionrehab.org](http://www.noravisionrehab.org)

The Neuro-Optometric Rehabilitation Association™, International (NORA) is an inter-disciplinary group of professionals dedicated to providing patients who have physical or cognitive disabilities as a result of an acquired brain injury with a complete ocular health evaluation and optimum visual rehabilitation education and services to improve their quality of life. NORA is committed to advancing the art and science of rehabilitation, with particular emphasis on treatment modalities designed to optimize visual-motor, visual-perceptual and visual information processing dysfunction among neurologically affected persons.



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