



Traumatic Brain Injury Treatment Information

Welcome to Vision Sense Optometry!

At Vision Sense Optometry, we focus on rehabilitative treatments that aid visual recovery from traumatic and acquired brain injuries, concussions, whiplash, and stroke.

Vision Sense is the only practice in Nova Scotia focusing exclusively on neuro-optometric visual rehabilitation and optometric neuro-visual postural therapy.

What happens to your vision after a brain injury?

Approximately 70% of our brain is dedicated to vision and visual processing, thus it is not surprising that a brain injury affects the visual system in some way. There are two important aspects of vision that interact in a typical individual.

1. **Central or Focal Vision** – used to see the fine details
2. **Peripheral or Spatial Vision** – provides information about our surroundings; where we are in space; where objects are in relation to us; and how we move through space. This information is established by the interaction of vision, proprioception (body position), posture, and the vestibular system (balance).

People suffering from Post-Trauma Vision Syndrome (PTVS) typically experience an imbalance in these two kinds of vision.

This is why standard optometric testing can reveal 20/20 vision, and healthy eyes, but a concussion/brain injured patient may still experience debilitating issues with their peripheral vision, not knowing where they are in space, discomfort in busy environments, find busy environments overwhelming – there are just too many details to process.

Symptoms of PTVS

Post-Trauma Vision Syndrome (PTVS) can impact daily function including work, social, and recreational activities. Symptoms can vary with each individual and can include any combination of the following:

- Dizziness
- Headaches
- Difficulty with reading, computer work, and/or scrolling on a phone
- Blurry vision
- Double vision
- Balance and depth perception issues
- Light sensitivity
- Motion sensitivity
- Discomfort in crowded or busy areas
- Reduced sense of where body is in space and reduced confidence navigating through space
- Impaired ability to process visual information
- Memory issues including remembering what was read
- Difficulty finding your way



What is a Neurovisual Optometric Assessment?

A standard optometric exam does not reveal enough information about the complexities of visual dysfunction associated with a brain injury. A Neuro-Optometrist evaluates many functions of the visual system, including:

- How the eyes work together
- Whether the eyes are working hard to focus and aim together
- Eye scanning and tracking ability
- How the person processes their environment and moves through it
- The integration between vision and other systems such as balance, auditory, and the body's sense of position in space
- Complex visual perceptual ability and visual memory

This comprehensive assessment takes approximately 1.5 to 2 hours to complete.

What is Vision Therapy?

Optometric neuro-visual therapy programs are carefully formulated to correct visual-motor, accommodative, vergence and/or perceptual-cognitive inefficiencies. Treatment sessions include activities and exercises that improve the capacity of the brain to manage alignment, eye movements and visual processing. Optometric visual therapy assists with the rehabilitation of people suffering from post-traumatic vision syndrome with symptoms such as difficulty reading and comprehending what they have read, headaches, blurred vision, fluctuating vision, fatigue, balance problems, dizziness, nausea, light, sound and movement sensitivities among other symptoms. This group of people often struggle to return to work, school and normal life activities.

How can Vision Therapy help after a brain injury?

At Vision Sense, we provide neuro-optometric rehabilitation assessments, progress evaluations and various forms of treatment, including yoked prisms, ophthalmic lenses and prisms, visual therapy, perceptual therapy, syntonics and sensory integration treatments. The optometric neurovisual therapy component is often the missing link on the road to recovery for patients who have had a concussion or brain injury. Optometric neurovisual therapy is not simply a program of eye exercises, it is a guided (monitored) program aimed at helping the brain and eyes work better together and to improve overall visual performance.

This type of visual therapy is vastly different than other rehabilitative therapies for people with concussions, whiplash and brain injuries. This is because it addresses the visual processing system (our primary sensory system) using ophthalmic lenses, prisms and treatments which only a licensed optometrist or ophthalmologist is able to use. Optometric neurovisual therapy initiates neuroplastic changes that improve the efficiency and effectivity of the visual system.



Some of the difficulties associated with concussions, whiplash and brain injuries, include headaches, difficulty reading, eye tracking, fluctuations in focusing, convergence or accommodative insufficiency and inaccurate perceptions of space. Many of these problems manifest in poor reading skills, frustration with near tasks, tired eyes, difficulty with comprehension, fatigue and inability to pay attention. The detection of these eye difficulties is often very subtle and is not always identified during a regular eye exam.

How is it different than a regular eye exam?

The ability of the eyes to work together is tested during a regular eye exam, on a gross scale. The subtle dysfunctions are often not elicited during a normal eye exam, thus leading to the conclusion that there is nothing wrong with the eyes. At Vision Sense the eyes are specifically tested for imbalances between the two eyes, under normal circumstances and also when the eyes are fatigued.

The initial assessment is expected to take approximately 1-2 hours. Once Dr. Dobson or Dr. Yuan has completed a thorough assessment, a report is prepared where treatment recommendations are made.

We are very pleased to be able to offer this proven, science-based, highly effective treatment modality to the province of Nova Scotia and look forward to improving the rehabilitation of affected patients.

For more information, visit our website at vision-sense.ca.

If you have any further questions or would like to book an assessment or a series of sessions, please contact our office at 902-454-1520 or email info@vision-sense.ca.

See efficiently in your future!

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