

> VISION REHABILITATION NEWS



VISION REHABILITATION POST-CONCUSSION

treatment varies depending on depth of problem

Over the years we have been able to help a wide variety of post-concussion cases that were experiencing visual sequelae. Some of the patients had been struggling for years before they came to our office, and were able to return to a relatively normal life-style once the visual disorders were addressed.

Neurosensory Disorders in Mild Traumatic Brain Injury contains a chapter co-authored by a colleague of mine from Canada, Dr. Patrick Quaid, OD, FCOVD, PhD and a neuro-ophthalmologist, Dr. Eric Singman, MD from John's Hopkins Medical Center.

Treatment really varies depending on the depth of the problem. Sometimes partial occlusion, which is designed specifically for visual motion sensitivity can achieve immediate relief. Other times, therapeutic lenses, such as Fresnel prism, can be very helpful during the recovery process because they are easy to change as the patient improves.

In case you aren't familiar with Fresnel prism, they can be placed easily on top of any existing glasses prescription and they can help reduce double vision as well as help with visual field deficits.

Sometimes patients need an entirely new prescription and/or an in-office program of neuro-optometric vision re-habilitation.

This is an area that we have specialized in for more than 10 years. If you have any questions, or would like to meet to discuss neuro-optometric vision care in general, we would welcome the opportunity to speak with you.



Dr. Ashley Gentrup, Dr. Angela Gulbranson and Dr. Jennifer Hupke

OVERVIEW OF CONCUSSION AND VISUAL FUNCTION

Here are some quotes from the chapter entitled, "Vision Disorders in Mild Traumatic Brain Injury" from *Neurosensory Disorders in Mild Traumatic Brain Injury* Published by Academic Press, an imprint of Elsevier, Copyright 2019:

Accommodation, vergences, saccades, orbital sensation, eyelid function, visual fields/ acuity, color vision, and pupillary function are subserved by 7 of the 12 cranial nerves, the importance of a detailed visuo-oculomotor examination in mTBI cases becomes apparent.

...
Patients themselves might

not even notice certain visual deficits until they try to return to their normal routine with visual intensive tasks such as reading, computer use and driving.

...
The prevalence of visual issues in mTBI patients between ages 11 and 17 has been estimated at 69% with overlapping issues including accommodative dysfunction

(51%), convergence insufficiency (CI, 49%), and saccadic dysfunction (29%) being reported.

...
Given that persistent (6 months or more after injury) visual symptoms are not uncommon in mTBI patients, it is logical to suggest that we need to investigate the oculomotor system of patients with mTBI in more detail than what

might be normally offered during a routine eye exam.

...
If such tests are not performed, the assumption of normality might not only be incorrect, but can result in limited gains in other rehabilitative areas, such as vestibular rehabilitation therapy or physiotherapy.

VISION, DEVELOPMENTAL DELAYS AND SENSORY INTEGRATION

The brain interprets and integrates visual information. Vision is pervasive throughout the brain. It is the dominant sense and there is more area of the brain dedicated to vision than any of the other sense modalities combined. It is connected to every cortical lobe and every structure of the brain. In addition, 6 of the 12 cranial nerves have to do with vision.

When vision is not integrated with the other senses, it can slow down progress with therapeutic intervention. In addition, we have received reports from other professionals that **once the vision problem was treated, the patients were more responsive to OT, PT, etc.**

Developmental delay and sensory integration issues often include vision problems which can present with:

- double vision
- field neglect
- dizziness & motion sickness
- visual perceptual delays
- oculomotility deficiency
- difficulty tracking
- blur and focusing difficulty
- light sensitivity
- visual motor dysfunction
- visual information processing disorders

If any of these are present a developmental vision evaluation is indicated. A developmental vision evaluation is an in-depth visual evaluation of all the visual skills critical to ADL. Please contact our office for more information.

PLAN TO ATTEND



be sure to take advantage of our free In-Service Program:

*Learning-Related Vision Problems:
When Smart Kids Struggle*

7:00pm Tuesday April 21, 2020
Visions Eye Care + Therapy Center
6201 S Minnesota Ave

To reserve your spot, please email Lindsay
in our office lindsay@sdvisions.com

HOW TO QUICKLY DETERMINE IF A VISION DISORDER IS IMPACTING PERFORMANCE

We recommend using the Brain Injury Symptom Survey, which is an excellent tool to identify patients who are struggling with visual sequelae post-concussion.

If the patient has any peripheral vision symptoms that are occurring often or always (3 or 4), it can be very distressing for the patient and an immediate referral is indicated. However, overall, a score of 32 or higher indicates the need for a Neuro-Optometric Vision Evaluation.


BRAIN INJURY VISION SYMPTOM SURVEY

Name: _____ Date: _____

Please rate each symptom:
How often does each occur? (circle a number)

	Never	Seldom	Occasionally	Frequently	Always
EYESIGHT / CLARITY					
Distance vision blurred	0	1	2	3	4
Near vision blurred	0	1	2	3	4
Clarity of vision changes or fluctuates during the day	0	1	2	3	4
Poor night vision / can't see well enough to drive at night	0	1	2	3	4
VISUAL COMFORT					
Eyes discomfort / sore eyes / eye pain	0	1	2	3	4
Headaches, dizziness or motion sickness	0	1	2	3	4
Eye fatigue	0	1	2	3	4
Feel pulling around the eyes	0	1	2	3	4
DOUBLING					
Double vision	0	1	2	3	4
Have to close or cover one eye to see clearly	0	1	2	3	4
LIGHT SENSITIVITY					
Normal indoor lighting is uncomfortable	0	1	2	3	4
Outdoor light too bright	0	1	2	3	4
Indoor fluorescent lighting is bothersome or annoying	0	1	2	3	4
Sensitivity to computer monitors and digital TV screens	0	1	2	3	4
DRY EYES					
Eyes feel dry and stinging	0	1	2	3	4
Stare into space without blinking	0	1	2	3	4
Have to rub the eyes a lot	0	1	2	3	4

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