Objective Support of Optometric Intervention in a Case of Traumatic Brain Injury
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BACKGROUND: Post-Concussive Syndrome (PCS) has a number of seriously distressing symptoms, and Post-Traumatic Vision Syndrome (PTVS), is a specific sub-set of symptoms that encompasses PCS issues. We now know that eye problems and other reported difficulties that result from a brain injury often occur because of a syndrome of interferences in the central nervous system. For several decades, optometric clinicians and researchers have been aware of the power of low powered prisms (here being called microprism) and low plus lenses (microplus) in resolving many aspects of the sequelae of head and neck trauma. The precise reasons why they have worked have not been well understood.

CASE REPORT: One painfully light sensitive PCS patient (43-YOP) presented with severe balance issues over the past 4 months following a head injury. She had slipped on ice in her driveway, striking the posterior skull. There was no loss of consciousness and she was diagnosed with a severe concussion. Her symptoms developed almost immediately after the insult. Vestibular problems, photophobia, confusion, and continuous headache were her major issues. Imaging, neurological, and neuropsychological evaluations were not exceptional. She had been doing vestibular training for about 9 weeks at the time of our examination. She was wearing very dark sunglasses and her posture and movement were guarded and wary.

The patient was wearing soft contact lenses successfully and was corrected to 20/20 OD, OS, OU. The 25-W light from the Keystone Telebinocular was highly distressful without her dark gradient sunglasses. Moderate exophoria was revealed on cover/uncover testing, and nearpoint pushup was very distressing, with defensive pulling away entering. Pt also reported going through (sic) church [indecipherable] but did not stay for music portion."

"Complete (difference) in pt's demeanor. Much more animated. Much improved with convergence. Received prism glasses from (--------- Optical). Noted immediate (decrease) to light sensitivity. Able to (walk) out of mall (without) issue when had some (with dark) glasses upon entering. Pt also reported going through (sic) church [indecipherable] but did not stay for music portion."

Our clinical experiences have revealed that very low powered lenses and prisms (microprism and micro-plus) are powerful tools in addressing a high percentage of PCS/PTVS sufferers. These results are fascinating because the changes are almost immediate.

Subjective (Likert Scale, rated 1 – 10) Symptom Changes over eight months.

Comparison of PCS to PTVS Symptoms

Balance Master charts indicated a functionality (the "Composite" score) increasing from 16% to 40%, then a total loss after a second concussion, which improved to 20% five days prior to microprism application. Her functionality then increased to 76% two days after lenses were prescribed.