> VISION REHABILITATION NEWS

MULTIPLE HEAD INJURIES = A CONCUSSION

multiple bumps can add up

As you know, while we all bump our heads multiple times as we navigate our world, in some cases those multiple bumps can add up. This could include mild sports injuries, car accidents, sledding accidents or slipping on the ice and even a simple fall. Often, when we ask patients if they have experienced any of these, they can easily think of at least 5 to 10 times. We thought you might find the following study of interest because it reinforces the fact that one does not need to be knocked unconscious in order to experience visual deficits caused by the impacts.

Published in **JAMA Ophthalmology,** "Neuro-Ophthalmologic Response to Repetitive Subconcussive Head Impacts," shows that the "simple" act of heading a ball in soccer alters brain function related to vision. The study found that after 10 headers, these subconcussive head impacts resulted in significantly lowered scores for oculomotor (eye movement) and convergence (eye coordination). These are two visual skills that are vital for reading and learning.

Subconcussive head injuries are not exclusive to soccer players, but this study highlights that it doesn't require a diagnosed concussion to impact visual function. The tricky part of vision problems that relate to head injuries is that it is not always immediately obvious. Sometimes it can take several weeks before the vision problem will surface which is why it is often missed.

We have been able to help adults, as well as pediatric patients who were struggling with reading after a head injury due to poor oculomotor or convergence skills. In some cases, the vision problems were completely missed by previous health care providers because these are very subtle and are hard to detect without providing specialized testing. In other cases, the patients were told "nothing" could be done to help them.

Research has shown that the incidence of eye coordination and eye movement disorders are very common after a head injury. The actual symptoms can vary. Difficulty with reading is one of the more common signs, as well as difficulties with balance and movement. If you would like a more in-depth symptom checklist to use as a quick reference guide for the visual sequelae that can occur, please email our Patient Care Coordinator, Lindsay at: lindsay@sdvisions.com

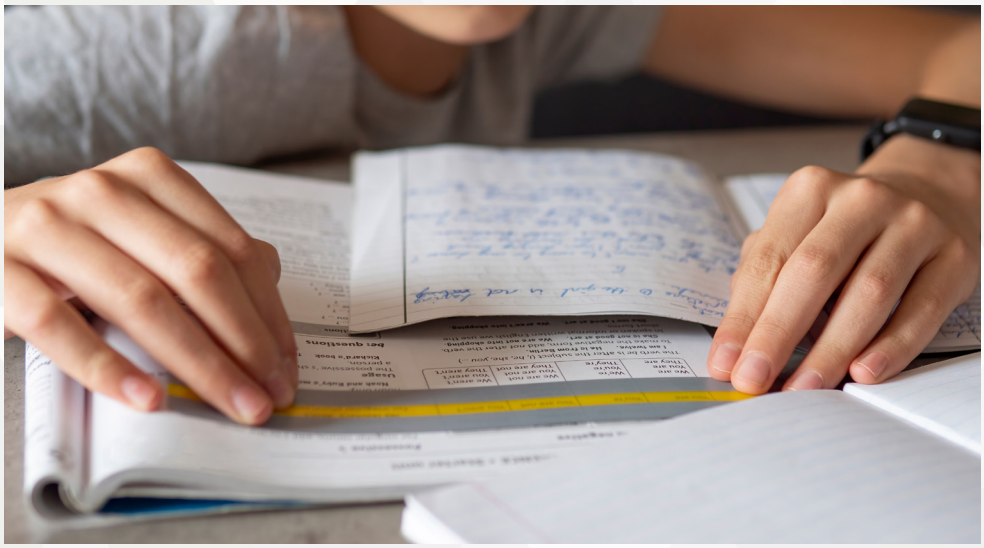
TAKE ADVANTAGE OF OUR FREE IN-SERVICE PROGRAMS:

Double Vision, Field Neglect, Dizziness and Motion Sickness: The Visual Connection
Post Trauma Vision Syndrome: A Co-Management Approach
Vision Development Problems in the Special Needs Population

These workshops are available on a limited basis, as our doctors' schedules allow. For more details or to schedule your in-service program, please call our office and ask for Lindsay or email: lindsay@sdvisions.com

VISION DISORDERS INTERFERE WITH REHAB & LEARNING

As you well know, most eye exams and pediatrician vision screenings are focused on testing visual acuity which typically takes about 1 to 2 minutes; yet, depending on the age of the child, reading can take anywhere from 5 to 10 minutes to hours at a time. When a child has difficulty using both eyes together correctly reading can become difficult, even with 20/20 visual acuity. Vision problems that deal with how the eyes move and work together are categorized as Binocular Vision Problems. One of the more common Binocular Vision Disorders, Convergence Insufficiency, is an eye coordination problem that often interferes with reading comprehension.



Along this line, we thought you might be interested in some statistics regarding the incidence of vision problems that often interfere with academic performance:

49% of children and adolescents had an eye coordination problem (Convergence Insufficiency) after a concussion

9.8% of children with Convergence Insufficiency had a diagnosis of ADHD; and **15.9%** with a diagnosis of ADHD had a diagnosis of Convergence Insufficiency

53% of pediatric and adult patients with Lyme disease had Convergence Insufficiency

80% of children who had Dyslexia also had binocular vision deficits (eye coordination, eye focusing and eye tracking). (Harvard Medical School)

A study of 121 elementary school children who were identified with reading problems found that **35%** of the children in the study had signs of poor accommodation skills (eye focusing), as well as vergence (eye coordination) and ocular motor disorders (eye tracking). (School of Optometry and Vision Science at the University of Waterloo)

As Developmental Optometrists, we provide very thorough testing of all the visual skills required for reading, learning and other activities of daily living. Visual acuity is only one of 17 visual skills required to function in life, yet that is the main visual skill that is tested by pediatricians and most eye doctors.

When Binocular Vision Disorders are contributing to a child's challenges, it can slow down progress with therapeutic interventions.

DO YOU KNOW THE SIGNS OF VISION PROBLEMS?

how you can help

For more information or a weighted symptom checklist to assist in identifying potential Binocular Vision Disorders, please email our Patient Care Coordinator, Lindsay at: lindsay@sdvisions.com

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