THE OPTOMETRIST'S ROLE IN CARING FOR PATIENTS WITH BRAIN INJURY

Patients with acquired or traumatic brain injury typically have visual and perceptual dysfunctions that require an OD on the team.

BY DEANN M. FITZGERALD, OD;
WITH GINA KIM, MOT, OTR/L, CBIS, AND BRIDGETT WALLACE, PT, DPT

Fully 70% of the human brain is dedicated to vision in some fashion, and 80% of all sensory information is processed through the eyes.[1] It is perhaps not surprising, then, that 90% of patients with acquired or traumatic brain injuries have some visual dysfunction.[1,2]

The Neuro-Optometric Rehabilitation Association stresses the importance of an interdisciplinary, integrated team approach in the diagnosis and rehabilitation of patients with concussion, stroke, or other neurologic deficits. Given the importance of vision to the brain and the high incidence of visual and perceptual dysfunctions after brain injury, a neuro-optometrist should be considered an essential part of the rehabilitation team for patients with these conditions. Moreover, anyone who treats brain injury patients should be able to refer to a wide range of professionals, including occupational therapists (OTs), physical therapists (PTs), neurologists, chiropractors, psychologists, speech therapists, athletic trainers, and other allied health professionals.

As a neuro-optometrist who has been practicing for more than 35 years in Cedar Rapids, Iowa, I see patients every day who have benefited from collaboration among providers from several disciplines. For this article, I spoke with two colleagues from the allied health professions who collaborate with neuro-optometrists in the care of patients with brain injuries.

TEAM APPROACH

"Vision affects how patients interact with objects in their environment,

so it plays a critical role in regaining the ability to perform functional tasks independently," said Gina Kim, MOT, OTR/L, CBIS, the lead OT at the Centre for Neuro Skills in Los Angeles, California.

She described her work with a woman who experienced a traumatic brain injury in a car accident. A neuro-optometrist prescribed prisms for the patient, and Ms. Kim worked with the patient to develop scanning skills at distance and near while wearing the new prisms. "The glasses helped with grounding her visual system, which included enhanced gait patterns," Ms. Kim said. "She felt like her legs weren't 'scissoring' or crossing over one another as much. While that was a positive development, it meant that we also needed to reduce the compensatory upper body rigidity that she had relied on to sustain her previous gait pattern."

Physical and vestibular therapist Bridgett Wallace, PT, DPT, has also seen the impact of prism on patients who are struggling with visual midline shift after brain injury. "In some cases, prism can instantly improve visual-spatial processing," she told me. "If a patient always feels like they are to the left, it is hard to work on vestibular or physical therapy. Prism helps them accurately orient themselves so that we can work on the remaining effects of their injury in therapy."

Ms. Wallace said she screens every patient who comes to her outpatient balance and dizziness clinic in Austin, Texas, for oculomotor issues. "Recently I was evaluating a patient with severe headaches and dizziness, and I noticed that one of his eyes wasn't tracking well," she related. "I knew that if he had a cranial nerve palsy, my vestibular therapy wasn't going to help until that could be addressed." The patient was seen by a clinician Ms. Wallace refers to regularly, and he is now doing well. "Some patients' dizziness will resolve completely with glasses, while in other cases neuro-optometric treatment will help them be more successful when they come back to us," Ms. Wallace said. "I feel fortunate to have the opportunity to collaborate with and learn from neuro-optometrists."

As these examples illustrate, an integrated team approach that incorporates the training and expertise of a variety of professionals can play a vital role in rehabilitation and improvement of patient outcomes. Our varying skill sets can all be used to help the patient. For example, I may be able to prescribe a lens that will help a stroke patient with a fixed pupil and unilateral deficit better attend to visual cues. But that patient will need many hours of therapy to cope with the deficit, and he or she would be better served by an OT or PT with far more patience than I can offer.

Ms. Kim told me that she and her staff see some patients for up to 10 hours of therapy per week. "Because we spend so much time with them, we can really notice which tasks are challenging, or when a patient has mastered a skill and needs more challenge," she said. "They may be at a point where they can tolerate more prism without provoking symptoms, and that's where a close collaboration with the neuro-optometrist to adjust the patient's vision therapy program can really help the patient continue progressing."

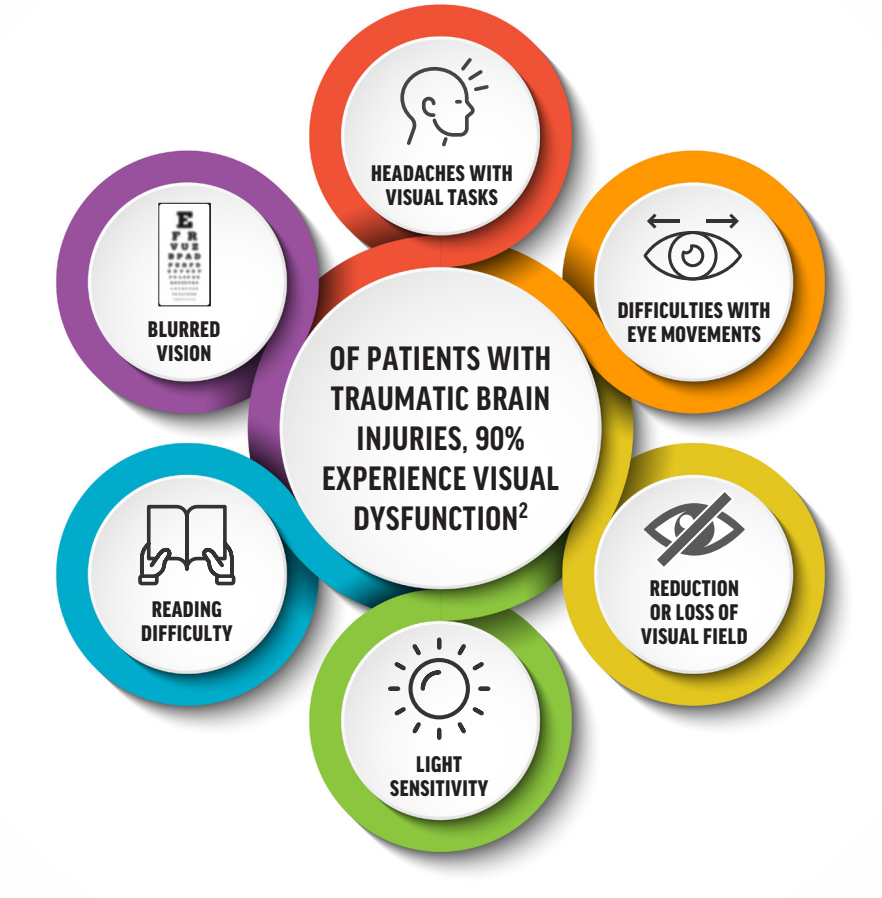
AVOIDING TURF WARS

In recent years more optometrists have become involved in rehabilitation, and more allied health professionals have discovered the importance of vision to therapy. Although there is some natural overlap among disciplines, all members of the rehabilitation team should follow the scope-of-practice guidelines that have been established by their state or provincial regulatory boards. Throughout the United States and Canada, for example, lenses and prisms may be prescribed only by a licensed optometrist or ophthalmologist. These are powerful tools that can cause damage if not used correctly.

Optometrists also must stay within their scope of practice. As a rehabilitation specialist, I'm aware that my whiplash patients may benefit from neck or back manipulation, but it would not be appropriate for me to start performing cervical manipulation. Maintaining a robust panel of referral partners is crucial to success, as is broad-based continuing education. Every year I attend courses outside of optometry so that I can better understand the interactions between visual processing and mobility, or the ways in which vision and oculomotor

AT A GLANCE

- Neuro-optometry should be considered an essential part of the rehabilitation team for patients with brain injury.
- Such teams may involve a wide range of professionals, including occupational therapists, physical therapists, neurologists, chiropractors, psychologists, speech therapists, athletic trainers, and other allied health professionals.
- All members of the team should follow scope-of-practice guidelines established by their state or provincial regulatory boards.



skills intersect with the spine, the inner ear, and even heart function.

"Education is important to make all of us aware of the referral resources that are available," Ms. Kim said. "Many people don't know what an OT can do, or that there are specializations such as Certified Hand Therapist, Certified Driving Rehabilitation Specialist, and others. The more I know about services for brain injury patients that are outside my scope of practice, the better I can advocate for my patients to see the right clinicians and professionals who can help them."

Ms. Wallace, too, said she has seen the value of education and collaboration in improving access to care for patients with a multitude of confusing symptoms. "No single profession 'owns' concussion or dizziness, and if we view it that way it is only the patient who suffers," she said. "Although it would be fine for a concussion patient to see a neurologist first, it also might take a long time to get that appointment. I think it is ideal to start with a comprehensive concussion center or a knowledgeable primary care provider like an optometrist or nurse practitioner, who can refer to other specialists as needed. The faster the patient can get access to care and the sooner we can all collaborate, the better it is for the patient."

GET WITH THE TEAM

I completely agree with my colleagues that neuro-rehabilitation is a team sport. And for optometrists, there are many ways to participate on the team. Some of us operate comprehensive rehabilitation clinics, whereas others prefer to prescribe lenses, prisms, and tints and then work with external referral partners to ensure that the efficacy of those tools is extended through therapy. Regardless of the model for care, it is incumbent on all of us to communicate with and work in concert with other disciplines. Ultimately, patients will benefit from this collaborative care approach. ■

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2. Ciuffreda KJ, Kapoor N, Rutner D, Suchoff IB, Han ME, Craig S. Occurrence of oculomotor dysfunctions in acquired brain injury: a retrospective analysis. *Optometry*. 2007;78(4):155-161.

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