

## Inter-professional Management of Concussion and Vision: Guest Editorial Comment

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Concussion, a complex pathophysiological neurological process, impacts as many as 3.8 million Americans yearly,<sup>1</sup> making it a significant public health concern in both our civilian and military populations.<sup>1-4</sup> Per the Centers for Disease Control and Prevention (CDC), concussion falls under the category of mild traumatic brain injury (mTBI) and is “caused by a bump, blow, or jolt to the head or by a hit to the body” resulting in a rapid to and fro movement of the head and brain altering brain function.<sup>3</sup> While neuro-imaging of the concussed brain is typically unremarkable when using standard magnetic resonance imaging (MRI),<sup>2,3</sup> activities of daily living (ADLs) and quality of life (QOL) may be impacted significantly. Performance for school, work, and recreation may be affected due to concussion’s functional impact on cognition, mood, sleep, and sensorimotor function, including vision.<sup>2,3</sup>

Vision problems occur in over 30% of the military and civilian population suffering with concussion/mTBI.<sup>5-11</sup> Examples of vision symptoms include constant or intermittent blur, diplopia, slowed or inaccurate reading ability, eyestrain, photosensitivity, dry eye, increased sensitivity to visual motion, and increased vestibular symptoms in visually-stimulating environments and with eye/head/body movements. Any of these vision symptoms may impede one’s ability to perform

ADLs, as well as certain tasks in concussion rehabilitation regimens.

Over the past decade, with only a small seminal sampling being referenced,<sup>12-21</sup> an increased amount of clinical research demonstrating the efficacy of optometric intervention in the concussion/mTBI population has been and continues to be performed nationwide. Dissemination of optometric knowledge and skills in the literature has awakened an exponentially increasing awareness, interest, and demand from patients and health care providers for neuro-optometric intervention following concussion/mTBI. Further, given the potential for multiple functional deficits following concussion/mTBI, understanding how to collaborate within a larger, diverse team of neuro-rehabilitation professionals becomes important as optometry begins to participate more actively in the inter-professional management of concussion.

Since I now practice at an academic teaching hospital where I evaluate and manage visually-symptomatic individuals with concussion/mTBI, amongst other underlying neurologic conditions, in a collaborative inter-professional capacity, I was delighted and honored when Dr. Press invited me to guest-edit this special issue of Vision Development and Rehabilitation on the “Inter-professional Management of Concussion and Vision”. My goal for this special issue was to present recent contributions involving inter-professional concussion management involving cases or approaches involving vision’s impact on ADLs and QOL. In addition, each article in this issue shares associated collaborative, often creative, management options at improving vision function to positively impact ADLs and QOL. To achieve this goal, I recruited colleagues, who are involved in the inter-professional management of visually-symptomatic patients with concussion, to author articles sharing their cases or approaches. Topics include the synergy between occupational therapy and optometry, interactions between psychiatry

and optometry, and an approach to managing visual-vestibular symptoms.

With this brief overview, this issue's authors and I are hopeful that readers will acquire an appreciation for incorporating optometry within the inter-professional neuro-rehabilitation team as we all strive to help those suffering from concussion regain functionality with their ADLs for school, work, and recreation for a restored QOL.

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