



Seeing-Moving-Playing: Early Rehabilitation utilizing visual and vestibular technology following traumatic brain injury, (SiMPLYReha)

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Traumatic brain injuries (TBI) are among the most commonly occurring injuries internationally. Dizziness and difficulty with balance and vision may occur following a TBI. Many people recover in the initial weeks following injury, but in some cases symptoms and difficulty functioning continues and may require treatment.

There is little research evaluating the effects of treatment in this area. There is some research showing that balance and vision treatment may help with recovery after a TBI. Thus, the aim of this research program is to bring together an international group of researchers with knowledge in TBI of all types to: 1) Evaluate potential problems with vision, inner ear-eye reflexes and deficits of processing eye information that occur following TBI; and 2) Evaluate treatment programs for individuals with eye and inner ear problems that persist for greater than 10 days following injury. This study will include 465 youth and young adults (aged 6-30 years old) who sustain a TBI of any severity. An initial evaluative phase using the best available technology to evaluate eye and inner ear function will be performed, and compared with typical tests that are used in the clinic. If symptoms and functional problems remain 10 days after injury, participants will be randomly placed into a treatment group (including eye movement, inner ear-eye reflex and attention exercises as per our pilot studies) or a control group (typical rehabilitation). We will measure success in terms of return to sport (mild TBI), achievement of goals (moderate and severe TBI) and quality of life. It is expected that this program will inform clinical practice and future research leading to a treatment program in TBI that includes multiple components. Ultimately, this program will lead to better health care delivery and decreased public health burden from TBI.