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Occupational Therapy Interventions for Visual Impairments among Adolescents with Mild Traumatic Brain Injury

Olivia Vander Haar
University of Nebraska Medical Center

Molly Whitlow
University of Nebraska Medical Center

Sarah Fellman
University of Nebraska Medical Center

Systematic Review Abstract

TITLE: Occupational Therapy Interventions for Visual Impairments among Adolescents with Mild Traumatic Brain Injury

PUPROSE: The purpose of this systematic review was to synthesize the evidence of occupational therapy (OT) interventions for adolescents who have sustained a mTBI and experience visual dysfunction.

DESIGN AND METHOD: A systematic review of peer-reviewed literature was conducted. Articles were included if participants were eight to nineteen years of age and diagnosed with an mTBI. Titles and abstracts of 506 articles from three databases were screened. The full text of 26 articles were reviewed. Seven met inclusion criteria. The U.S. Preventive Services Task Force levels of certainty and grade definitions described the strength of evidence.

RESULTS: Physical conditioning, vision therapy, and device usage emerged as interventions for improving visual function for adolescents post-mTBI. Physical conditioning and vision therapy had moderate strength of evidence. Physical conditioning interventions like aerobic exercises, core strengthening, and balance training should be used for 30 seconds to 30 minutes, daily to 2 times per week, for 3 to 4 weeks. Vision therapy should be utilized under the subthemes of ocular motility, binocularity, and visual vestibular processing 2 times per week from 4 to 23 weeks. Device usage had low strength of evidence. Computer gaming glasses or electronic rapid alternate occlusion with liquid crystal glasses can be used on a case-by-case basis.

CONCLUSIONS: Present research supports the routine use of physical conditioning and vision therapy for adolescents with visual impairments post-mTBI. Device use can be considered on a case-by-case basis. Future studies should further explore occupation-centered interventions for this group to enhance their visual function in everyday tasks.