

Concussion

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Background Information: Concussions are mild traumatic brain injuries (mTBI) caused by a sudden blow or force applied directly or indirectly to the head resulting in disturbance in brain function.¹ Concussion can lead to a myriad of symptoms including somatic complaints (headache, light and sound sensitivity), cognitive changes (reduced concentration or memory, slowed processing), vestibular problems (dizziness and balance impairment) as well as behavioral/emotional complaints (sleep disruption, anxiety, irritability).¹ Frequently, symptoms will resolve spontaneously over the course of days or weeks, but for those who experience persistent physical complaints, physical therapists are a key provider to assist those recovering from concussion.

Epidemiology/Statistics: Each year people with brain injuries account for 2.2 ED visits, 280,000 hospitalizations, 50,000 deaths. Males sustain concussion 2-5x more frequently. 40% of concussion are sport-related. Non-sports related concussion are caused most frequently by falls, car crashes and assaults.¹

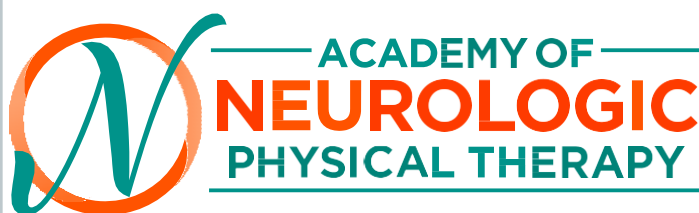
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The Role of Physical Therapy: PTs evaluate and treat people following concussion for balance deficits, vestibular complaints, diminished tolerance to activity and oculomotor impairments. Graded exertional testing is recommended and used to guide return to activity.² In general, graded exercise that does not exacerbate symptoms appears beneficial to those with post-concussive symptoms.³ Since the forces that cause concussion may also result in neck or vestibular system injury, physical therapists should evaluate these areas for possible impairment.

A multimodal approach to symptom management is emerging as the standard of treatment for individuals with prolonged symptoms. A team of providers may be necessary to address the range of physical, cognitive, visual, and behavioral complaints, including: physician, physical therapist, speech language pathologist, occupational therapist, psychologist, neuro optometrist.⁴

Research Updates: Early consensus recommendations for sport concussion management encouraged rest until symptoms had resolved before resuming activity out of concern for exacerbation of injury. Recent studies have shown a possible increase in behavioral symptoms (anxiety, depression) with longer prescribed rest⁵.



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Research Updates (continued): As a result, current sport⁶ and civilian guidance statements⁷ recommend a short period of rest (24-48 hours) followed by graded exposure to activities that may evoke mild symptoms while avoiding high risk/impact activity.

Earlier (time frame) physical therapy interventions in adolescents following concussion occurred without negative effects compared to patients treated later after injury, suggesting that earlier therapy is safe.⁸

Much of what is known about concussion and recovery from injury is based on research with adolescent and young adult athletes. Factors related to prolonged recovery include a history of multiple concussions⁹, severe acute injury symptoms, complaints of dizziness/balance disturbance in the acute phase, and history of migraine or mental health disorders. Therapists should consider factors that may slow recovery, age and prior activity level in planning intervention.

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