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CLINICAL OUTCOMES AND MULTI-DISCIPLINARY MANAGEMENT OF PEDIATRIC ACUTE SPORT- AND NON-SPORT RELATED CONCUSSION

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Background:

The majority of pediatric concussion research has been conducted among athletes and notably less is known about children who sustain a non-sport related concussion.

Objective:

The objective was to compare clinical outcomes among pediatric patients who sustained sport or non-sport related concussions.

Methods:

Included patients were 8-18 years old, assessed within 14 days of their injury at a multidisciplinary concussion program and diagnosed with either an isolated acute sport-related concussion (SRC) or non-sport related concussion (non-SRC). Physician-documented clinical recovery was defined as returning to pre-injury symptom status, attending full-time school and completing the Return to Sport protocol (if necessary). Delayed physician-documented recovery was defined as clinical recovery documented greater than 28 days post-injury.

Results:

Of the 415 included patients, 78% sustained a SRC. The median physician-documented recovery was 19 days for SRC and 23 days for non-SRC ($p=0.37$) for the 339 patients who recovered. There was no significant difference in time to physician-documented recovery between groups (crude hazard ratio: 1.31; 95% CI: 0.99, 1.75) with no change in the hazard ratio after controlling for age, sex, initial PCSS, pre-injury psychiatric history, previous history of migraine, social deprivation, material deprivation, self-reported post-traumatic amnesia or loss of consciousness at the time of injury, and presenting with vestibulo-ocular dysfunction or cervical spine dysfunction (adjusted HR: 1.19; 95% CI: 0.83, 1.72). Among those who experienced delayed physician-documented recovery or were lost to follow-up after 28 days, patients with a non-SRC took significantly longer to recover than youth with a SRC (non-SRC: 56 days; IQR: 39, 101 versus SRC: 38 days; IQR: 33, 63.5, $p=0.0017$).

Conclusion:

The majority of children will recover from a concussion within 28 days regardless of mechanism of injury. However, patients with a non-SRC with persistent symptoms at 28 days were likely to recover more slowly than patients with a SRC.