

# Timelines of concussion symptom recovery and return to participation of patients presenting to a community physiotherapy clinic

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## Concussion Injury

- In Canada, It is estimated concussion injury has an annual incidence rate of 1.2%.<sup>1</sup>
- Treatment and management encompasses robust return to participation criteria.

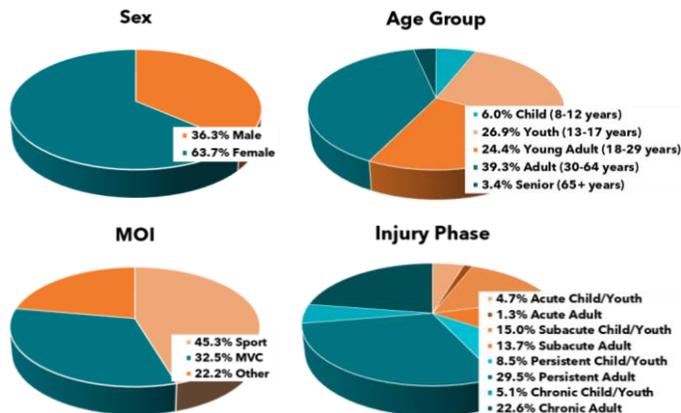
## Objective

- To compare patient demographics, mechanism of injury (MOI), injury phase, changes in total symptom severity (TSS), and return to participation (RTP) including work/learn and activity rates to recovery time frames.

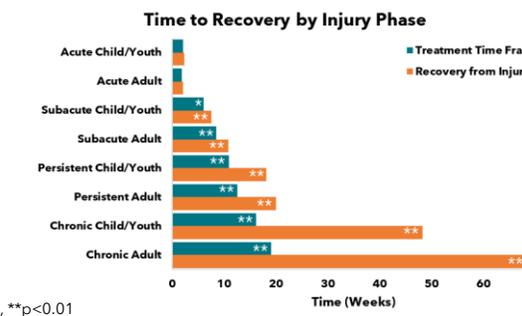
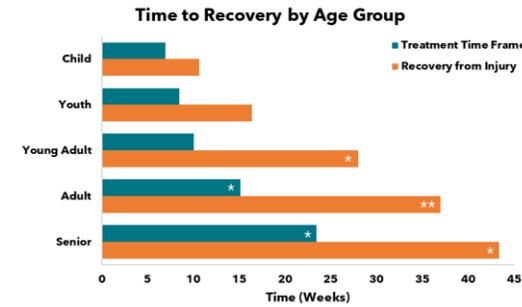
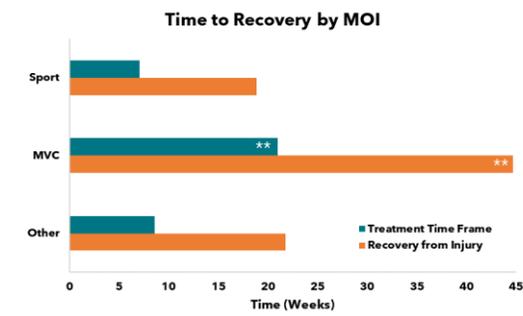
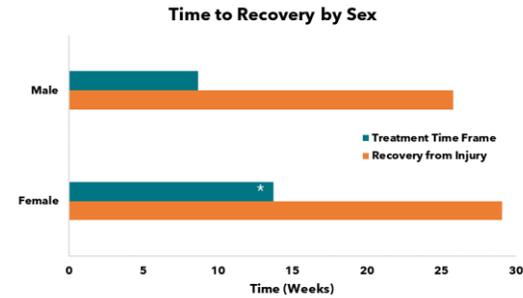
## Methodology

- Design:** Retrospective chart review.
- Inclusion Criteria:** All patient charts for those receiving treatment for concussion at Isaac Physiotherapy Inc. from September 1, 2016 to August 31, 2018 (n = 234).
- Intervention:** Multimodal physiotherapy (cervico-vestibular, exertion, education), referral to specialist physician, psychology and/or neuropsychology.
- Outcome measures:** Total treatments received, treatment time frame (weeks), weeks to recovery, return to participation (work/learn and activity).
- Analysis:** Descriptive statistics, paired t-tests, survival analysis.

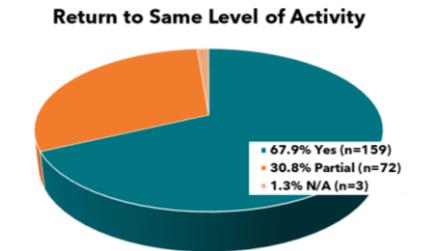
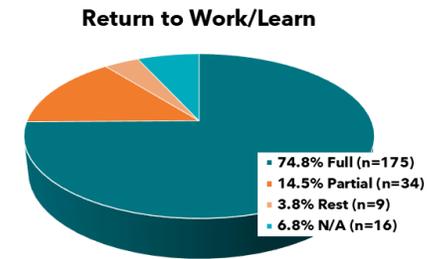
## Patient Demographics



## Time to Recovery



## Return to Participation



## Results

- Females attended more treatments over a longer time than males (8.61 treatments over 13.73 treatment weeks; 6.54 treatments over 8.68 treatment weeks, respectively). No difference in weeks to recovery from injury.
- Recovery timelines were shortest for children (6.95 treatment weeks and 10.64 weeks to recovery); longest for seniors (23.48 treatment weeks and 43.36 weeks to recovery).
- Our average time-to-recovery for young adults and adults challenge literature reports of a 10-14 day recovery timeframe.<sup>2</sup>
- 68% achieved full return to activity (including sport), an additional 30.8% achieved partial return to activity.
- 75% of patients achieved full return to work/learn.
- Motor vehicle collision (MVC) had the longest time-to-recovery (20.95 treatment weeks and 44.70 weeks to recovery); sport and other MOI had statistically the same recovery times (7.02 treatment weeks and 18.87 weeks to recovery; 8.59 treatment weeks and 21.76 weeks to recovery, respectively).
- Outcome measures were longest for the chronic injury phase (19.02 treatment weeks and 48.23 weeks to recovery for chronic child/youth group, 19.02 treatment weeks and 68.19 weeks to recovery for chronic adult group, respectively).
- Average TSS decrease was 19.88-points between intake and discharge.

## Conclusions

- Concussion patients seeking community physiotherapy experienced symptom and participation recovery.
- Treatment and recovery time frames were considerably longer than reported in the literature.
- Results will aid in expanding generalizability, appropriateness, implementation of pragmatic physiotherapy interventions for concussion, and post-concussion care management pathways.

## References

- [1] Langer et al. (2020) *J Head Trauma Rehabil*. DOI: 10.1097/HTR.0000000000000503
- [2] McCrory et al. (2017) *Br J Sports Med*. 51:838-847.