The Toronto Concussion Study: Fatigue Trajectories and Vocational Recovery Following Concussion

Dr. Carl Leochico and Dr. Mark Bayley
The Hull-Ellis Concussion and Research Clinic
Toronto Rehab – UHN

Presentation Summary for Conference Participants

Study Aims

- Characterize patterns of fatigue recovery during the early weeks following concussion.
- Examine the relationship between fatigue and return to work, school, and other productive roles.
- Evaluate the feasibility of integrating standardized fatigue assessment into routine concussion care.
- Generate clinically meaningful information that can support rehabilitation planning and vocational recovery after concussion.

Why This Study Matters

Successful recovery after concussion is often defined by the ability to resume pre-injury activities, particularly employment, education, and community participation. While many individuals recover within weeks, a significant subgroup experiences persistent fatigue that interferes with daily functioning. Better identification of these individuals may allow clinicians to provide earlier intervention, individualized accommodations, and more realistic return-to-role planning.

The study contributes to a growing body of evidence emphasizing that post-concussion fatigue is not simply an inconvenience or secondary symptom. Rather, it may serve as an important marker of recovery trajectory and functional outcome. By examining fatigue in a real-world clinical setting, the study aims to inform practical assessment and management strategies that can be readily translated into clinical care.

Clinical Implications

Several key clinical themes emerged from this work:

1. **Early and routine fatigue assessment should become a standard part of concussion management.** Standardized fatigue screening (for instance using the Barrow Neurological Institute – Fatigue Scale or the SCAT – total score or single fatigue-item score) may help clinicians identify clients at risk for prolonged recovery earlier in their rehabilitation journey. Administering the BNI-FS (or a validated equivalent) can be useful at the initial concussion assessment and at scheduled follow-up appointments (e.g., Weeks 2 and 8). Flag BNI >36 as a trigger for structured fatigue management planning. Leverage the SCAT total score and SCAT fatigue item as efficient, early risk stratifiers that are readily available. For further risk stratification, female clients and younger-adult age groups presenting after concussion should be proactively identified as at elevated risk for clinically significant and persistent fatigue. Clinical monitoring should be intensified, and return-to-role timelines should be planned with greater flexibility and accommodation for these subgroups.

2. **Fatigue can affect vocational outcomes.** Early recognition of significant fatigue may support more informed return-to-work and return-to-school planning, including the use of graded schedules, modified duties, and activity pacing strategies.

3. **A biopsychosocial approach is essential.** Fatigue frequently co-exists with sleep disturbance, psychological distress, cognitive difficulties, pain, and other post-concussion symptoms.

Comprehensive management should therefore consider the full range of contributing factors rather than focusing on fatigue in isolation.

4. **Interdisciplinary rehabilitation plays an important role.** Individuals with persistent symptoms may benefit from coordinated care involving physicians, occupational therapists, psychologists, social workers, vocational rehabilitation specialists, and other rehabilitation professionals.

5. **Client-centred education remains critical.** Counseling regarding pacing, symptom management, gradual role resumption, and realistic recovery expectations may help clients navigate the recovery process more effectively and reduce the risk of symptom exacerbation.

Significance for Rehabilitation Practice

The Toronto Concussion Study highlights the importance of recognizing fatigue as a clinically actionable symptom with meaningful implications for function, participation, and quality of life after concussion. Our study findings support a more structured approach to fatigue monitoring within concussion care pathways and reinforce the need for rehabilitation strategies that address both symptom burden and vocational participation.

As concussion care continues to evolve, systematic assessment of fatigue may help clinicians better identify individuals who require additional rehabilitation support, facilitate earlier intervention, and ultimately improve return-to-work and return-to-life outcomes.

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Note: The results presented at this conference reflect ongoing research. Detailed statistical analyses, tables, figures, and complete study findings are being reserved for future scientific publication. Thank you.