



## Article Appraisal

Article: **Brown NJ et al. Effect of Cognitive Activity Level on Duration of Post- Concussion Symptoms. Pediatrics. 2014; 133(2): 1-6.**

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Resident Reviewer Name(s) and Residency Affiliation: Melissa Ringer

Faculty Methodology/Biostatistics Resource Person: Ka Wai Cheung

Background and Study Objective(s)	The ideal approach for return to activity following concussion remains poorly understood. The objective of this study was to determine the effect of cognitive activity level on duration of post-concussion symptoms.
Study Design	This was a prospective cohort study that enrolled patients presenting to the Sports Concussion Clinic of Boston Children’s Hospital between October 1, 2009 and July 31, 2011. 335 patients aged 8-23 years were enrolled. The primary outcome was whether cognitive activity level affected the duration of post-concussion symptom duration. The Kaplan-Meier Product Limit method were used to generate curves of symptom duration based on cognitive activity days (product of average cognitive activity level and days between the last clinic visit), and a Cox proportional hazard model was used to evaluate other possible predictors of post-concussion symptoms
Results	Patients in the highest quartile of cognitive activity were found to take statistically longer to recover than those in the lower 3 quartiles of activity. Cognitive activity days had a hazard ratio of 0.9942 with a 95% confidence interval of 0.9924-0.960. Those in the lower 3 quartiles had similar symptom trajectories. The initial Post Concussion Symptom Score and cognitive activity days were found to be associated with duration of concussion symptoms. In contrast, age, gender, loss of consciousness, amnesia, and number of previous concussions were not found to be associated with time to symptom resolution.
Validity of Results	Questions were raised about the validity of the results of this study, based on the fact it used an unvalidated cognitive activity scale. In addition, the potential of recall bias affecting the rating of cognitive activity level was pointed out. The general sentiment from the Journal Club discussion was that this study was limited by the validity of its results, and perhaps a goal of this article should have been to validate the cognitive activity scale itself.
Generalizability of Results	The generalizability of this study was felt to be undermined by the fact that this was a single centre study involving a specialized concussion clinic. The relevance of these results to the ED setting was felt to be limited due to these factors.
The Bottom Line	Although the results of this study support our current practice of recommending cognitive rest, it was not felt to help guide any specific recommendations, and the overall sentiment at Journal Club was that although it was useful in confirming our current practice it did not offer any specific recommendations for counseling of patients post concussion.