Poster Session A

C-53

Long and Short Sleepers Perform Worse on Baseline Neurocognitive Testing in Sports-Related Concussion

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Objective: While demographic (e.g., age, gender) and environmental factors (e.g., motivation) have been established as modifying factors for baseline testing performance, sleep duration has recently piqued the interest of researchers. Athletes sleeping less than 7 hours prior to baseline testing performed worse, although clinical relevance of these miniscule differences is debatable. Method: The goal of this study is to determine if sleep restriction (< 5 hours) influences baseline testing, as measured by the Immediate Post-Concussion Assessment and Cognitive Testing (ImPACT), compared to those sleeping a typical amount (5–9 hours) and long sleepers (> 9 hours), in a sample of athletes (N = 9,083) aged 12–21 (M = 15.69 years). Results: 5.2% of the sample slept less than 5 hours at baseline. After controlling for gender and age, a MANCOVA revealed group differences across all composites of ImPACT: verbal memory (F = 22.07, p < .001), visual memory (F = 6.43, p = .002), visual motor speed (F = 23.51, p < .001), and reaction time (F = 6.96, p = .001). Posthoc comparisons with Bonferroni correction indicated that those with sleep restriction had reduced performance compared to typical sleepers across all composites. Long sleepers did not differ from those with restricted sleep on speeded measures. Conclusion(s): Reduced sleep appears to have a dose response on baseline neurocognitive testing, although long sleepers also demonstrate reduced performance. These differences may be negligible in a majority of cases in clinical practice.