The Relationship of Symptoms and Neurocognitive Performance to Perceived Recovery From Sports-Related Concussion Among Adolescent Athletes

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Abstract

Sports medicine practitioners often consider athletes' self-reports of recovery for the management of concussion, and it is not clear which factors (i.e., neurocognitive performance and symptoms) athletes consider when forming perceptions of recovery from concussion. The current study assessed the relationship of perceptions of recovery to neurocognitive performance on the Immediate Post-Concussion Assessment and Cognitive Testing (ImPACT) battery and to symptoms using the Post-Concussion Symptom Scale (PCSS). A total of 101 concussed athletes (62 males, 39 females) aged 12 to 18 years old were included in the study (M \text{age} = 14.75, SD = 1.76). Athletes were asked to rate their “percent back to normal” (i.e., perception of recovery) at the time of evaluation. A multiple regression for neurocognitive performance and symptoms revealed a significant model that accounted for 58% of the variance in perceptions of recovery. Adolescent athletes base their perceptions primarily on somatic symptoms (e.g., headache, nausea, vomiting, etc.), and these perceptions may be incongruent with objective neurocognitive measures. Athletes' tendency to overlook several factors when forming their perceptions of recovery should caution the sports medicine practitioner from relying on self-reported symptoms as their primary criterion for return-to-play decisions. These data further support the need for valid and reliable measures for concussion management.