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Original Research

Immediate Post-Concussion Assessment and Cognitive Testing (ImPACT) Practices of Sports Medicine Professionals

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Abstract

Context: Computerized neurocognitive testing is becoming popular among clinicians evaluating sport-related concussions across all levels of sport. Baseline neurocognitive testing has been recommended to provide more accurate representation of the preconcussion cognitive status of individual athletes. However, little is known about the use of baseline neurocognitive testing in concussion assessment and management.

Objective: To examine implementation and practice trends of sports medicine professionals using baseline neurocognitive testing at the high school and collegiate levels.

Design: Quantitative survey research.

Setting: Online survey.

Patients or Other Participants: Certified athletic trainers (ATs) from approximately 1209 US institutions listed on the ImPACT Web site were recruited. A total of 399 ATs completed the survey, for a response return rate of 32.7%.

Main Outcome Measure(s): Survey questions addressed educational level, years of certification, employment setting, percentage of athletes baseline tested, and accuracy of baseline tests. Other items addressed postconcussive neurocognitive testing protocols and scenarios for return-to-play decisions based on neurocognitive testing.

Results: Nearly all ATs (94.7%) administered baseline computerized neurocognitive testing to their athletes. However, only 51.9% examined these baseline tests for validity. The majority of ATs indicated that they administer baseline neurocognitive tests most frequently to football players (88.4%), followed

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by women's soccer players (78.8%) and men's soccer players (71.2%). Nearly all respondents (95.5%) stated that they would not return a symptomatic athlete to play if the athlete's neurocognitive scores were back to baseline. However, when asked if they would return an athlete who is symptom free but who scores below his or her baseline, 86.5% responded *no*, 9.8% responded *yes*, and 3.8% indicated that it *depended on the importance of the competition*.

Conclusions: The use of baseline testing, baseline testing readministration, and postconcussion protocols among ATs is increasing. However, the ATs in this study reported that they relied more on symptoms than on neurocognitive test scores when making return-to-play decisions.

Keywords: [concussions](#), [baseline testing](#), [computerized neurocognitive testing](#)

Tracey Covassin, PhD, ATC; Robert J. Elbin III, MA; and Jennifer L. Stiller-Ostrowski, PhD, ATC, contributed to conception and design; acquisition and analysis and interpretation of the data; and drafting, critical revision, and final approval of the article. Anthony P. Kontos, PhD, contributed to analysis and interpretation of the data and critical revision and final approval of the article.

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