Two acute symptoms may predict prolonged concussion recovery

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A decision tree model may be used by clinicians to help identify patients

who are most likely to experience a prolonged recovery following a sport-related concussion, according to a study published in the February issue of the *American Journal of Physical Medicine & Rehabilitation*.

Michael Robinson, Ph.D., from the University of Western Ontario in London, Canada, and colleagues examined the 22 variables from the Sport Concussion Assessment Tool 5th Edition Symptom Evaluation using a decision tree analysis to identify those most likely to predict prolonged recovery after a sport-related concussion. The analysis included 273 patients (52% men; mean age, 21 years) initially assessed by either an emergency medicine or sport medicine physician within 14 days of concussion.

The researchers found that only two of the 22 variables contributed toward the predictive splits: feeling like "in a fog" and sadness. When these two factors were present, there was a greater risk for prolonged recovery (≥28 days). There was statistically significant accuracy of 0.7636, sensitivity of 0.6429, specificity of 0.8889, positive predictive value of 0.8571, and negative predictive value of 0.7059.

"The data required for the application of this decision tree is often readily available to clinicians at the time of their initial patient assessment," the authors write. "It is unlikely to contribute meaningfully to the length of the clinical encounter or result in undue burden for either the clinician or patient."

More information: Michael Robinson et al, Two Symptoms to Triage Acute Concussions, *American Journal of Physical Medicine & Rehabilitation* (2021). DOI: 10.1097/PHM.0000000000001754