

**Editors' Note:** Commenting on the “Early symptom burden predicts recovery after sport-related concussion” study, Casson believes that the discussion would have been more complete citing his articles on the subject. Commenting on the same study, Sethi reports his own experience with sport-related concussion, which differs from the study findings. The first author, Meehan, notes that Casson’s articles are not germane to his work and comments on Sethi’s interesting points.

—*Chafic Karam, MD, and Robert C. Griggs, MD*

#### EARLY SYMPTOM BURDEN PREDICTS RECOVERY AFTER SPORT-RELATED CONCUSSION

**Ira R. Casson, Forest Hills, NY:** I agree with Meehan et al.<sup>1</sup> that “the best predictor of prolonged symptoms after sport-related concussion is simply total symptom burden at the time of presentation.” This confirms our similar findings.<sup>2,3</sup> These 2 articles were not cited by Meehan et al. and I request that the authors correct this oversight.

**Nitin K. Sethi, New York:** The authors<sup>1</sup> and the editorialists<sup>4</sup> assessed the prediction of recovery after sports-related concussion. Overall subjective symptom burden was the only independent predictor of prolonged recovery in the Meehan et al. cohort. I would like to know why some athletes report a greater subjective symptom burden after a concussion than others.

I see athletes and nonathletes with “mild” concussion if graded on the basis of mechanism of injury, presence or absence of loss of consciousness (LOC), duration of LOC, and duration of post-traumatic amnesia. They also report an increased subjective symptom burden—high scores on the Post-Concussion Symptom Scale—with prolonged and sometimes incomplete recovery from their reported subjective symptoms. This is contrary to some athletes and nonathletes who seem to have had a “moderate” or “severe” concussion but report few subjective symptoms.

It is possible that some brains are inherently more vulnerable to concussion due to still

unidentified genetic, structural, and functional brain connectivity causes. Premorbid concussion factors such as baseline IQ, personality, and psychosocial factors may alter the reported subjective symptom burden.

**Author Response: William P. Meehan III, Boston:**

We thank Dr. Casson and Dr. Sethi for their interest in our work.<sup>1</sup> We are pleased that Dr. Casson agreed with the conclusions. Although we are familiar with his studies, we did not cite them in our article for several reasons. We conducted an original study vs a literature review, meta-analysis, or systematic review. Thus, our discussion section was focused on the interpretation of our results and described how our results fit into the overall body of literature on this topic.<sup>5</sup> As our population consisted of all patients with a concussion who presented to an outpatient clinic at an academic medical center, it would substantially differ from the population of professional football players on which Dr. Casson reported. Given the substantial difference between the study populations and methodologies used, we did not believe comparisons between our studies were appropriate.

Dr. Sethi’s observations that the acute findings do not reliably predict either the symptom burden or duration of symptoms after a concussion appear accurate and are corroborated by previous investigations. These findings, in part, led to the change away from grading systems that used the acute clinical parameters to grade concussions. His hypotheses regarding the reasons for the variability of symptom burden among patients who sustain concussions all seem plausible. In addition, we note that the symptoms of concussion are nonspecific and therefore—particularly as time progresses—some symptoms may be due to the treatment of concussion, specifically the restrictions placed on cognitive and physical activity, vs the pathophysiology of concussion itself.

© 2015 American Academy of Neurology

1. Meehan WP III, Mannix R, Monuteaux MC, et al. Early symptom burden predicts recovery after sport-related concussion. *Neurology* 2014;83:2204–2210.

2. Pellman EJ, Viano D, Casson IR, et al. Concussion in professional football: injuries involving 7 or more days out: part 5. *Neurosurgery* 2004;55:1100–1119.
3. Pellman EJ, Viano D, Casson IR, et al. Concussion in professional football: players returning to the same game: part 7. *Neurosurgery* 2005;56:79–92.
4. Tsao JW, Perry BN, Kennedy CH, Beresford R. Predicting prolonged recovery after concussion. *Neurology* 2014;83:2196–2197.
5. Browner WS. Discussion. In: *Publishing and Presenting Clinical Research*. Philadelphia: Lippincott Williams & Wilkins; 2006.

## CORRECTIONS

### **vCJD in the United States - Analysis of 4 Cases (P2.329)**

In the 2015 AAN Annual Meeting abstract “vCJD in the United States - Analysis of 4 Cases (P2.329)” by D. Saenz et al. (*Neurology*<sup>®</sup> 2015;84:P2.329), there are two errors. The second sentence under ‘Results’ should read: “...all confirmed by tonsillar and/or brain tissue at autopsy.” The second sentence under ‘Conclusion’ should read: “...2 of the 4 affected individuals visited the UK at some point during the incubation period.” The authors regret the errors.

### **Induced Normothermia in Severe Traumatic Brain Injury Patients (P7.168)**

In the 2015 AAN Annual Meeting abstract “Induced Normothermia in Severe Traumatic Brain Injury Patients (P7.168)” by D. Green-LaRoche et al. (*Neurology*<sup>®</sup> 2015;84:P7.168), there are two errors. In the Methods, it should read that all patient data and resources for the project originated from a single institution, Boston Medical Center (“BMC”). The last sentence of the Acknowledgments should read “We thank Tudor Sturzoiu, Boston University School of Medicine, for providing the data extraction and analysis for this project.” The authors regret the errors.

### **Safety and Effectiveness of Lacosamide as Adjunctive Treatment for Partial-onset Seizures (POS) in Hispanic/Latino Patients from Mexico: Post-hoc Analysis of an Open-label Trial (P4.265) and Safety and Effectiveness of Lacosamide as a First Add-on (FAO) or Later Add-on (LAO) Treatment of Partial-onset Seizures (POS) in Adults: an Open-label Trial (P4.262)**

In the 2015 AAN Annual Meeting abstracts “Safety and Effectiveness of Lacosamide as Adjunctive Treatment for Partial-onset Seizures (POS) in Hispanic/Latino Patients from Mexico: Post-hoc Analysis of an Open-label Trial (P4.265)” by H. Ceja Moreno et al. (*Neurology*<sup>®</sup> 2015;84:P4.265) and “Safety and Effectiveness of Lacosamide as a First Add-on (FAO) or Later Add-on (LAO) Treatment of Partial-onset Seizures (POS) in Adults: an Open-label Trial (P4.262)” by W.W. Zadeh et al. (*Neurology*<sup>®</sup> 2015;84:P4.262), there is an error in the byline. Plamen Tzvetanov does not meet the criteria for authorship and should not have been included in the author list. The AAN Scientific Programming staff regrets the error.

# Neurology®

## Early symptom burden predicts recovery after sport-related concussion

Ira R. Casson, Nitin K. Sethi and William P. Meehan III

*Neurology* 2015;85;110-111

DOI 10.1212/WNL.0000000000001700

**This information is current as of July 6, 2015**

<b>Updated Information &amp; Services</b>	including high resolution figures, can be found at: <a href="http://n.neurology.org/content/85/1/110.full">http://n.neurology.org/content/85/1/110.full</a>
<b>References</b>	This article cites 4 articles, 1 of which you can access for free at: <a href="http://n.neurology.org/content/85/1/110.full#ref-list-1">http://n.neurology.org/content/85/1/110.full#ref-list-1</a>
<b>Permissions &amp; Licensing</b>	Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at: <a href="http://www.neurology.org/about/about_the_journal#permissions">http://www.neurology.org/about/about_the_journal#permissions</a>
<b>Reprints</b>	Information about ordering reprints can be found online: <a href="http://n.neurology.org/subscribers/advertise">http://n.neurology.org/subscribers/advertise</a>

*Neurology*® is the official journal of the American Academy of Neurology. Published continuously since 1951, it is now a weekly with 48 issues per year. Copyright © 2015 American Academy of Neurology. All rights reserved. Print ISSN: 0028-3878. Online ISSN: 1526-632X.

