AMERICAN ACADEMY OF NEUROLOGY®

AAN 65th ANNUAL MEETING ABSTRACT

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EMBARGOED FOR RELEASE UNTIL 4 P.M. ET WEDNESDAY, JANUARY 16, 2013

Abstract Title: Depressive Symptom Endorsement in Retired NFL Players and the Role of Concussion

Press Release Title: NFL Players May be at Higher Risk for Depression as They Age

Objective: The goal of this study was to assess the relationship between a remote history of concussions with current symptoms of depression, and examine specific symptoms endorsed by retired athletes.

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Background: According to the CDC approximately 1.6 to 3.8 million sports concussions occur each year. While it is known that cognitive and/or mood disturbances can result from sports concussions, few have investigated the enduring effects that may emerge later in life, especially those related to depressive symptoms.

Design/Methods: Thirty-four retired NFL athletes with a history of concussion and twenty-nine age- and IQ-matched controls without a history of concussion were recruited. All participants completed the Beck Depression Inventory II, Wechsler Abbreviated Scale of Intelligence, and a full neuropsychological battery. The BDI-II was subdivided into a 3-factor model as proposed by Buckley (2001) in order to provide a more detailed analysis of reported symptoms. Concussion history was obtained retrospectively from athletes and informants, and classified using the AAN Practice Parameter guidelines for grading concussion (1997).

Results: Pearson correlations were conducted to assess the relationship between number of concussions and depressive symptoms. Independent t-tests were conducted to compare BDI-II scores between athletes and controls. The number of lifetime concussions and total scores on the BDI-II were significantly correlated ($r = 0.50$, $p = 0.004$). Upon investigating a 3-factor model of depressive symptoms (affective, cognitive, and somatic) of the BDI-II, the cognitive factor was significantly correlated with concussions ($r = 0.63$, $p < .001$). In general, NFL players endorsed more symptoms of depression on all 3 Buckley factors (affective, cognitive, and somatic) compared to controls.

Conclusions: The results suggest that athletes having sustained concussions in early adulthood may be at a higher risk for developing depression as they age compared to the general population (particularly cognitive symptoms of depression).

Study Supported by: The BrainHealth Institute for Athletes at the Center for BrainHealth, a research center at the University of Texas at Dallas.

San Diego
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