

Researchers suggest playing American Football may be a risk factor for hypertension

January 11 2016

As National Football League playoff games are underway, a new article published in the "Hypotheses" section of the January 2016 issue of *The FASEB Journal*, suggests that the toll the sport takes on players' bodies extends beyond head trauma and damage to limbs and joints. The trauma and damage associated with football participation may also be linked to elevations in blood pressure through immune system activation and inflammation.

"Although our hypothesis addresses the etiology of hypertension in footballers acutely, it could also have important implications on understanding the development of chronic disease long-term, and thus may improve the quality of [football players](#)' lives upon retirement from the game," said Cameron G. McCarthy, M.S., study author from the Department of Physiology at Georgia Regents University in Augusta, Georgia.

In their article, McCarthy and colleagues discussed their hypothesis about the mechanisms that may mediate the elevations in [blood pressure](#) and hypertension observed in football players. Although a review of the scientific literature suggested an association between [excess body weight](#) and cardiometabolic risk factors with hypertension in football players, and especially in linemen, not all the increases in blood pressure could be solely attributed to these factors. Therefore, it was suggested that [immune system activation](#) and inflammation arising from

musculoskeletal trauma also contribute to this response. The authors hope their hypothesis will promote research to investigate the mechanisms that underlie this hypertension, as well as preventative and therapeutic strategies for this potentially at-risk population. Once these mechanisms become clear, players, parents, coaches, athletic trainers, and clinicians can begin to identify and implement strategies to prevent and treat harmful elevations in blood pressure.

"We can easily see that American football players take an enormous amount of physical punishment when they play," said Thoru Pederson, Ph.D., Editor-in-Chief of *The FASEB Journal*, "but what we can't see so easily are the long-term effects. Hopefully, this hypothesis shines a light on this potential silent killer of athlete and nonathlete alike

More information: C. G. McCarthy et al. The toll of the gridiron: damage-associated molecular patterns and hypertension in American football, *The FASEB Journal* (2015). [DOI: 10.1096/fj.15-279588](https://doi.org/10.1096/fj.15-279588)

Provided by Federation of American Societies for Experimental Biology

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