

ONE HUNDRED FOURTEENTH CONGRESS
Congress of the United States
House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

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March 14, 2016

The Honorable Fred Upton
Chairman
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, D.C. 20515

Dear Chairman Upton:

I am writing to request that we jointly expand the Committee's investigation of the causes, effects, treatment, and prevention of concussions. A topic this important merits a more in-depth review than a single roundtable discussion can provide. I urge you to hold a series of formal hearings to give concussions and sports-related head trauma the attention they deserve as critical public health issues.

Throughout these hearings, it will be crucial to hear from those who have been personally affected by traumatic brain injury. The testimony of those who have experienced firsthand the effects of mild or severe concussions and those who have lost loved ones to debilitating neurodegenerative diseases as a result of repetitive head trauma must play a large role in our discussion. To help focus our examination of concussions and their effects, I propose that the Committee hold hearings on at least the following four topics:

(1) Head Impacts in Youth Sports

Youth sports organizations have begun to consider changes to the rules governing contact, given declining participation and the publicity around the negative effects of concussions and repetitive head trauma. Pop Warner, which operates youth football programs, instituted a change to their rules in 2012 regarding head-on blocking and tackling during practices.¹ The change limited the amount of practice time devoted to physical contact and set a maximum distance of three yards from which players could be apart during full-speed tackling

¹ *Pop Warner to Limit Practice Contact*, ESPN (Jun. 15, 2012) (online at espn.go.com/espn/story/_/id/8046203/pop-warner-toughens-safety-measures-limiting-contact-practice).

drills. In addition to youth football, in November 2015, the United States Soccer Federation prohibited heading for players age 10 and under and limited headers in practice for players age 11 to 13.²

Despite these kinds of modest changes, evidence is mounting that youth participation in contact sports presents serious risks to long-term neurological health. The Mayo Clinic recently published a report finding that close to one-third of the brains donated to the Mayo Clinic Brain Bank of young males who participated in contact sports during youth had chronic traumatic encephalopathy (CTE), a neurodegenerative brain disease.³

Research increasingly shows that subconcussive trauma—repeated hits to the head that present no immediate clinical symptoms—can also have cumulative adverse effects on brain physiology and function.⁴ Youth sports players may be at particular risk of lasting neurological damage due to repetitive hits, since their brains are still developing and they tend to take longer to recover from head impacts.⁵ Studies have shown that young athletes who did not sustain concussions but did experience repetitive hits to the head exhibited neurological impairment over the course of a single athletic season.⁶

These findings merit further review. We should review the current state of the science surrounding risks presented by both concussions and repeated subconcussive hits to youth athletes and their developing brains, so parents can make informed decisions about their children's participation in sports. A hearing on this topic could foster a dialogue with youth sports organizations and youth sports advocates on how to ensure that children and young adults are safe when they engage in athletic activities.

² *U.S. Soccer, Resolving Lawsuit, Will Limit Headers for Youth Players*, New York Times (Nov. 9, 2015) (online at www.nytimes.com/2015/11/10/sports/soccer/us-soccer-resolving-lawsuit-will-limit-headers-for-youth-players.html?_r=0).

³ *Evidence Suggests Amateur Contact Sports Increase Risk of Degenerative Disorder*, Mayo Clinic News Network (Dec. 2, 2015) (online at newsnetwork.mayoclinic.org/discussion/mayo-clinic-cte-fl-release/); *Brain Damage Study Shows Student-Athletes May Risk Same Injuries as NFL Players*, Bloomberg Business (Dec. 1, 2015) (online at www.bloomberg.com/news/articles/2015-12-01/brain-damage-found-in-one-third-of-former-student-athletes).

⁴ Christine M. Baugh et al., *Chronic traumatic encephalopathy: degeneration following repetitive concussive and subconcussive brain trauma*, *Brain Imaging and Behavior* (May 3, 2012).

⁵ Mallika Marar et al., *Epidemiology of Concussions Among United States High School Athletes in 20 Sports*, *American Journal of Sports Medicine* (Jan. 27, 2012).

⁶ Thomas M. Talavage et al., *Functionally-Detected Cognitive Impairment in High School Football Players Without Clinically-Diagnosed Concussion*, *Journal of Neurotrauma*, 30:1-12 (2013).

(2) Protective Gear

The Committee should undertake an in-depth inquiry into the potential for and possible limitations of protective gear in contact sports, as well as research and investments in new protective technologies. For example, new efforts to equip helmets with sensors to detect micro-level head movements and a Department of Defense program to design unique tethers that connect the waist and torso to a helmet are important technological innovations worth examining.⁷

The Committee could explore whether, and to what extent, protective gear can prevent or reduce instances of concussive and subconcussive impacts. For instance, biomechanics researchers have discovered that helmet specifications are important factors for reducing damage caused by linear impacts to the head, but that rotational force associated with head impacts is responsible for most concussions.⁸ Given this distinction and the inherent limitations of using a helmet to prevent the brain from moving inside the skull, the Committee could assess the effectiveness of protective gear in preventing or mitigating head trauma.

Many manufacturers of athletic protective gear make claims about their effectiveness in preventing injury, including concussions. A hearing on protective gear could feature testimony from the Federal Trade Commission (FTC) on efforts to monitor advertising claims to ensure consumers are not misled by the product's limitations. Representatives of the U.S. Army research team in charge of developing tethered helmets could also testify on their findings. Finally, the Committee could hear from consumer advocates about the safety of current protective gear and how to enhance the safety of youth and adult athletes with future technology.

(3) Head Impacts in College and Professional Sports

The Committee's investigation should examine brain injury in collegiate and professional athletics. The Centers for Disease Control and Prevention (CDC) estimates that between 1.6 and 3.8 million concussions occur in sports and recreational activities every year.⁹ Some professional and collegiate sports leagues have made changes to the rules of play to prevent concussions. For example, earlier this month all eight Ivy League football coaches unanimously

⁷ *How Army Research Is Combating Concussions in the NFL*, DoD News (Feb. 4, 2016) (online at www.dodlive.mil/index.php/2016/02/how-army-research-is-combating-concussions-in-the-nfl/).

⁸ American Academy of Neurology, *How Well Do Football Helmets Protect Players from Concussions?* (Feb. 17, 2014) (online at www.aan.com/PressRoom/home/PressRelease/1241).

⁹ JA Langlois et al., *The epidemiology and impact of traumatic brain injury: a brief overview*, *The Journal of Head Trauma Rehabilitation* (2006).

approved a measure banning all full-contact hitting from regular-season practices.¹⁰ Although such changes are encouraging, head injuries in high-contact professional and collegiate sports appear to remain a serious and unresolved problem.¹¹

The Committee should also examine the National Football League's (NFL) handling of the link between repetitive head trauma and CTE. There has been a rise in the number of reported concussions in NFL players. For example, injury statistics for the 2015 NFL season showed a 31.6 percent increase in reported concussions over the 2014 season.¹² Additionally, CTE has been discovered in 87 of 91 former NFL players who donated their brains to the Boston University Brain Bank.¹³ The Committee should have a public discussion about the science surrounding the evolution of CTE and its origins in repetitive hits in the course of amateur and professional play. The focus of a hearing on concussions in professional sports could include the NFL and other professional organizations, including the National Hockey League, Major League Soccer, and the National Basketball Association. This list is not exhaustive, and the Committee should endeavor to look across men's and women's sports at the collegiate and professional levels to assess risk and the implications for youth sports.

(4) Access to Medical Care and Treatment

Finally, the Committee should hold a hearing on access to resources for diagnosing and treating concussions. Concussions are notoriously difficult to diagnose, and multiple, non-harmonized definitions exist across the medical literature for this form of head injury. Despite these challenges, increased access to medical care does enhance the ability to spot concussions in real time and respond appropriately. Access to medical care to diagnose and treat a concussion is critical to mitigate the neurological effects of concussions and allow the brain to heal. In sports, having athletic trainers and neurotrauma consultants available during practices and games is an important resource for players' health and safety.¹⁴ The full implementation of these policies should be encouraged and expanded across all contact sports.

¹⁰ *Ivy League Moves to Eliminate Tackling at Football Practices*, New York Times (Mar. 1, 2016) (online at www.nytimes.com/2016/03/02/sports/ncaafootball/ivy-league-moves-to-eliminate-tackling-at-practices.html?_r=1).

¹¹ *Report: NHL Rule Changes Haven't Decreased Concussion Rates*, NBC Sports (July 17, 2013) (online at nhl.nbcsports.com/2013/07/17/report-nhl-rule-changes-havent-decreased-concussion-rates/).

¹² *What the NFL's New Concussion Numbers Don't Answer*, PBS Frontline (Feb. 1, 2016) (online at www.pbs.org/wgbh/frontline/article/what-the-nfls-new-concussion-numbers-dont-answer/).

¹³ *87 of 91 tested ex-NFL players had brain disease linked to head trauma*, CNN (Oct. 11, 2015) (online at www.cnn.com/2015/09/18/health/nfl-brain-study-cte/).

¹⁴ *Independent concussion specialists ready to work NFL sidelines*, NFL Health Playbook (Sept. 3, 2013).

The Committee should also examine concussion surveillance. Proper surveillance is essential to understand the prevalence of concussions in sports and other recreational activities. President Obama's 2017 budget request includes \$5 million to establish a National Concussion Surveillance System that would allow CDC to accurately determine the incidence of concussions among youth between ages 5 and 21.¹⁵ The National Concussion Surveillance System would enable CDC to assess the efficacy of prevention efforts and provide reliable data and statistics to health care providers and hospitals about access to care.¹⁶ The Surveillance System would also offer the first ever national estimate of individuals living with disabilities caused by brain injuries.

Finally, there are questions about the affordability and insurance coverage of basic treatment for concussions, which may not be included in some health insurance policies. Through the Affordable Care Act's requirement that insurance policies extend dependent child coverage to 26 years of age, many youth and young adult athletes now have greater access to medical care. However, out-of-pocket expenses for concussion evaluations can put a financial strain on many families. The Committee's evaluation should include an assessment of the barriers to medical care after head injuries have occurred.

In conclusion, the proposed series of hearings would offer meaningful insight into the risks posed by concussions and repetitive hits to many of our constituents. Congress can and should play a role in understanding the science surrounding concussions and taking critical steps now to ensure the safety of our youth. We should not let the unanswered questions about concussions and traumatic brain injury justify our inaction, as more and more children and adults suffer serious consequences of their injuries.

I thank you for beginning to focus the Committee's attention on this serious and important public health issue. I look forward to an open and honest discussion about the scope of our examination of concussions and traumatic brain injury.

Sincerely,

A handwritten signature in blue ink that reads "Frank Pallone, Jr." in a cursive style.

Frank Pallone, Jr.
Ranking Member

¹⁵ Centers for Disease Control and Prevention, *Overview of the President's FY 2017 Budget Request* (Feb. 9, 2016) (online at www.cdc.gov/budget/documents/fy2017/fy-2017-cdc-budget-overview.pdf).

¹⁶ Centers for Disease Control and Prevention, *National Concussion Surveillance System* (accessed Mar. 9, 2016) (online at www.cdc.gov/traumaticbraininjury/ncss/index.html).