

TESTIMONY OF JEFF MILLER
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Mr. Chairman, Ranking Member Schakowsky, members of the subcommittee, thank you for inviting me to testify today. My name is Jeff Miller. I am the Senior Vice President for Health and Safety Policy at the National Football League. I appreciate the opportunity to testify before you on a topic of significant importance: "Improving Sports Safety: A Multifaceted Approach".

There is nothing more important to the NFL than the safety of our players. Commissioner Goodell has stated repeatedly that he spends more time on the health and safety of our sport than any other issue. And, there is no issue of greater importance when it comes to player safety than the effective prevention, diagnosis and treatment of concussions.

Football has earned a vital place in the rhythm of American life. Nearly 6 million kids play flag or tackle football; another 1.1 million play football in high school; and 75,000 play in college. Whether it is touch games in our backyards with family, youth games played in our local parks, Friday night high school games, college games on Saturdays, or Sundays and Mondays spent rooting for favorite NFL teams, football plays a significant role in our lives.

With that popularity comes responsibility. One that we embrace and take seriously. We understand that the decisions we make at the NFL level impact football at all levels, and have influence even beyond that. I appreciate the opportunity to share the NFL's work to promote the health and safety of the athletes who play our game, as well as athletes of all sports, and at all levels.

The game of football has always evolved and become more exciting and safer along the way. President Roosevelt's intervention in college football in 1905 when 18 athletes died led to the adoption of the forward pass and the development of the NCAA. As a result, the game improved, became more popular, and safer. Over the decades, the helmet became required equipment, going from leather to a hard shell, and improving its safety capabilities with every new version. The introduction of the facemask added further protection. Pads to protect the knees, hips and thighs became a part of the uniform as well.

Our efforts to promote sports safety go far beyond head injuries and far beyond football. We work to ensure everyone who plays the game or has played the game receive the best possible medical care. This includes not only youth football players, but also the many retired NFL players pursuing different careers and interests long after they leave the playing field behind. We are pleased that retired players are living productive and healthy lives.

In 2012, a NIOSH study found that former NFL players are likely to live longer than men in the general population. Former players also had a lower rate of cancer-related and heart disease related deaths. For those players who do experience medical challenges, the NFL 88 Plan has distributed almost \$30 million since 2007 to former players for assistance with for dementia, ALS and other neurodegenerative diseases. In addition to the 88 Plan, we also have comprehensive disability plan; long-term care insurance; joint replacement surgery; and players now have the opportunity to remain in the NFL medical plan post-career.

In 2012, we established the NFL Life Line as a free, independent and confidential phone consultation service and website. All members of the NFL family have complete access to the Life Line and its staff of trained mental health experts 24 hours a day, every day of the year.

The NFL Player Care Foundation provides resources for former players to take care of their mental and physical well-being. Next week, former players will congregate in Orlando as part of the PCF's Healthy Body and Mind program, which takes place nationwide. The free national screening program is open to all former NFL players, and includes a series of private and confidential cardiovascular and prostate screenings, along with mental health resources and education.

Fostering a strong culture of player health, wellness and safety – that extends across all aspects of a player's life, from his football career to his family and personal growth– is a focal point for the NFL. Players are provided resources, tools and support to assist them as they move through their careers and lives, from signing with their first NFL team to having their first child to adjust to life post-football.

Rule Changes

Over time, the playing rules of our game have evolved. The head slap, the leg whip, the cut block and the horse collar tackle, among many other techniques can only be seen in historical videos.

In recent years, the playing rules continue to be modified in an effort to reduce contact to the head and neck. One very specific example of how this effort has made the game safer is the decision to move the kickoff line forward five yards. The kickoff return yielded more concussions than any other play in our game. By moving the kickoff, concussions declined 40% in the first year and have remained at that lower level since. Additionally, the rules offer a more expansive definition of what constitutes a defenseless player, therefore protecting more players from dangerous hits in more circumstances. Penalties, fines, and in some cases suspensions are reducing helmet to helmet hits as we work to remove those practices from our game. Just last season, we adopted a rule banning tacklers and ball carriers from initiating contact with the crown of the helmet. Often these changes are met initially with criticism from fans or players, but these modifications make the game safer while keeping it exciting. We will continue to look for ways to take unnecessary and dangerous plays out of the game.

According to our most recent injury data, these changes are making an impact. Concussions are down 13 percent and concussions from helmet to helmet hits are down 23 percent between 2012 and 2013. We believe this is a result of rules changes, a culture change, the enforcement of the rules and our focus on limiting the use of the head in our game. Coaches are teaching players different techniques and experts who study the game, like former coach John Madden, believe that players are lowering their target when they tackle and are hitting the head less often. These statistics only represent one year's experience but we are encouraged by the direction. At the same time, we have not seen any increase in knee injuries as a result of lower targeting.

Rules are an essential part of the continued evolution of our game. Importantly, as the NFL adopts new rules, we frequently see those changes quickly replicated in college and high schools. This drives a culture of safety throughout our sport.

Protocols and Treatment

When players are injured, we take their care very seriously and act conservatively, especially as it relates to possible head injuries. The first rule that we follow in all cases is that medical decisions take precedence over competitive ones.

In recent years, we have made significant improvements to our practices and protocols to better identify and manage injuries.

First, we added an athletic trainer to a skybox in every stadium for the sole purpose of identifying possible injuries. Where a player looks as if he may be injured, the athletic trainer relays that information to the team medical staff. This “eye in the sky” helps ensure that injuries are quickly identified and that players receive prompt medical attention. Second, the medical staff now has available the actual video of the play on which the injury occurred; they can watch that video on the sidelines almost immediately to better understand what happened on the field and how the injury occurred. This is a most valuable aid in diagnosis and helps team medical personnel make better treatment decisions. Third, with respect specifically to concussions, several special protocols are in place. Players who may have sustained a concussion are removed from the game or practice and examined by trained medical professionals. Anyone who has sustained a concussion may not return to play that game under any circumstances. A player who may be showing signs or symptoms of a concussion is taken to the locker room away from the noise and the lights of a packed stadium. There, a doctor can perform a full exam.

The sideline review is a standardized exam, consistent across all 32 teams, and is based on internationally accepted medical standards. This year, team medical personnel were aided by unaffiliated neurological consultants in making concussion diagnosis. These doctors, local concussion experts, have no relationship with a club and are there solely to offer their expertise

and a lending hand where one is needed. We were very pleased with the program in its first year and will use it again this coming season.

If a player is diagnosed with a concussion, he may not return to play or practice until he completes a graduated protocol involving periods of rest, examination and exercise challenges, and has been cleared by his team neurological expert as well as an independent expert identified in consultation with the players association.

Players know more about concussive injuries than they have ever before. In each locker room is a fact sheet and poster designed to educate players, coaches and others at our team on concussions – what they are, what symptoms to look for, and what to do if a player suspects that he or a teammate has had a concussion. We worked closely on the poster and fact sheet with the Centers for Disease Control and Prevention. Working with the CDC and others, we have helped to design a complimentary version for all youth and high school sports, which is freely available on the CDC's website. According to the CDC, it is one of their most popular offerings and has been downloaded more than a million times.

Youth Sports Participation and Youth Football Participation

The NFL takes its responsibility as a leader very seriously. For that reason, we are concerned not just about our athletes or football generally, but about the public health issue that concussions present. Possibly related, we are also aware of the significant decline in youth participation rates in team sports.

The diagnosis of concussions in youth sports has increased fourfold in 11 years -- at a rate of 15 percent a year. Some of this is due to increased awareness of the risks and signs of a concussion; some is as a result of a broader definition of concussion.

This may also be related to the 15% decline in team sports participation in the last several years, according to the Sports and Fitness Industry Association ("SFIA"). According to the Wall Street Journal, citing the SFIA, the decline in youth tackle football participation is considerably less than in other sports like soccer, baseball and basketball. Nevertheless, it is declining.

Experts in this area cite sports specialization, safety, economics and a decline in recreational options for athletes all as reasons for the decline.

This is a societal problem. One we commend the committee for investigating and for raising the profile of the issue. Team sports bring great benefits to our children. Teamwork, communication, resilience, hard work, perseverance, social skills, as well as learning to win and lose are just some of the character developing attributes we know that sports help teach our kids. When these attributes of sports are combined with studies that show athletes perform better in school and have fewer attention and discipline problems, it is easy to see a decrease in participation as particularly problematic for our society. This calculation does not even consider the dangerous trend of childhood obesity that is challenging our young people.

We believe that the NFL has a responsibility to address this challenge, especially to the extent safety is an element driving kids away from participating – or driving parents away from letting their kids play.

One place where we are focusing our efforts is on the future of youth football. It is essential that as professional football evolves so does the game at all levels. For the almost 6 million kids who play football, we are proud to work with USA Football to support their efforts to make an already great game even better. You will hear from the Executive Director of USA Football, Scott Hallenbeck, about his organization's efforts to promote youth participation and make the game better and safer, so my comments will be limited.

The NFL and our players association created USA Football 11 years ago in an effort to promote youth football and improve the game. They have done just that.

Last year, we supported the pilot offering of a program called "Heads Up Football" that was designed to improve the game at the youth level. The core elements of the program are: coaching certification, the addition of player safety coaches, proper equipment fitting, concussion and other health education, and parental involvement.

For the first time, coaches were being asked to take an educational course to teach them how to teach the game. The program was developed by and focuses on teaching the right

techniques, playing the game safely, and on attributes like respect and good sportsmanship. Creating standards for coaches and insisting on compliance will result in better trained adults on the sideline and better coaching being delivered to the kids. Further, where the game is being taught appropriately, the game will be safer, and more enjoyable for those who play it.

This pilot program found enormous demand in its first year, including four youth leagues in Nebraska. This year the NFL will continue to support USA Football's efforts to grow Heads Up Football to become the standard for youth football participation across all youth leagues. We are particularly proud that Pop Warner will mandate Heads Up Football for all of its participants this year for the first time. Pop Warner deserves great credit for taking the lead on football safety.

The NFL supports the Heads Up program as it begins its pilot program in high schools across the country. Already, the National Federation of High Schools, the national PTA, the National Athletic Trainers Association, as well as many college conferences have endorsed Heads Up Football as an appropriate way to teach the game. The NFL is proud of the progress of this program and looks forward to USA Football's efforts to make the game even better and safer.

Lystedt Laws

Beyond our efforts to promote and improve the game at all levels, the NFL is proud of our efforts to promote youth concussion laws across the countries to make athletes in all sports safer.

In October 2010, the NFL, Seattle Seahawks, Centers for Disease Control and the U.S. Army held a conference to discuss concussions in youth sports. The conference celebrated the efforts of influential representatives of the Seattle medical, legal and political communities to pass a unique law to make youth sports safer.

The legislative effort was inspired by Zackery Lystedt's courageous story. As a 13-year old football player, Zackery suffered tragic injuries in a football game. During his recovery, Zackery became the inspiration for legislation passed in Washington State that would become a model for youth sports concussion laws passed around the country.

At that conference, NFL Commissioner Roger Goodell announced that the NFL would adopt Washington State's Lystedt law, which had then passed in six states, as a cause and commit to advocating for its passage in ten states in the next year and the eventually all fifty states. The Lystedt law contains three key components:

1. Youth athletes and their parents must be educated about concussions each year.
2. If a young athlete is suspected of sustaining a concussion, he or she must be removed from the practice or game.
3. The youth athlete cannot return to play until he or she has been cleared by a licensed health care provider.

Earlier this year, the NFL achieved its goal and as of today all fifty states have passed laws addressing concussion in youth sports. As a result, youth athletes in all sports are safer and parents, coaches and teachers are more aware of concussion diagnosis and treatment than ever before. Since the passage of these laws, some states have returned to the issue to strengthen the statutes even further.

Partnerships

The NFL's efforts to make sports safer go beyond head injuries and goes far beyond football. For several years, we have been proud to support the Korey Stringer Institute in their efforts to prevent heat related illness in sports around the country. These complete preventable deaths are among the leading causes of fatalities in youth sports. The correct protocols and increased awareness will stop these tragic events. The Korey Stringer Institute has been successful in gaining acceptance of heat acclimatization practices in several states already. We will work with them to spread those best practices even further.

Similarly, we are proud of a partnership with the national PTA. Last year, the NFL and the National PTA launched a nationwide partnership on youth health and fitness. The "Back to Sports" initiative provides parents and communities with important youth wellness information the importance of physical activity. Through this partnership, local PTA's provide their

communities with important information at “Back to Sports Nights”. We are looking to expand upon this partnership this year.

The NFL has worked closely with the CDC since 2007 to promote concussion awareness for young athletes. The NFL’s work with the CDC has resulted in multiple resources through the CDC’s Heads Up campaign. The Heads Up campaign provides important information about concussion in sports for youth athletes, their coaches and parents, and health care professionals.

U.S. Army

One other collaboration that we are very proud to discuss is our relationship with the U.S. Army. In 2012, the NFL and the U.S. Army partnered to improve education and awareness of head injury among NFL players and service members. This partnership focuses on shared culture change, information exchange, education, and increased awareness of the issues surrounding concussion. The initiative provides an opportunity for the NFL and members of the armed forces to collaborate to change their cultures and address barriers that discourage the reporting of concussion symptoms. Since the establishment of this partnership, the NFL and the U.S. Army have co-hosted forums at NFL team facilities and Army bases to permit players and soldiers together to share experiences and discuss concussion awareness and culture change.

Scientific Research

While we are working to make sports safer through a number of efforts already described, it is also important to identify the goals of the significant medical research that the NFL’s owners have chosen to fund. The tens of millions of dollars already announced are designed to move science forward and make real differences in the medical understanding of the issues being researched. We hope, of course, that football will be safer as a result; but equally importantly, there will be societal benefits to the breakthroughs and innovations being created with the NFL’s and our partners’ contributions.

National Institutes of Health

In September of 2012, we joined with the experts at the National Institutes of Health to advance the science behind head injuries, providing them with \$30 million in funding for medical research to the Foundation for the National Institutes of Health (FNIH).

The unrestricted gift is the NFL's single-largest donation to any organization in the league's 92-year history, demonstrating just how strongly we believe in the pursuit of medical research that will benefit not just NFL players, not just athletes, but the general population as well.

Some areas of research to be funded by our grant include chronic traumatic encephalopathy (CTE); concussion management and treatment; and the understanding of the potential relationship between traumatic brain injury and late-life neurodegenerative disorders, especially Alzheimer's disease.

The funding has already helped support important research projects. In December of last year, the NIH announced its first round of grants to eight institutions for the study of traumatic brain injury. In addition, the NIH announced funding for six pilot projects in sports-related concussions.

Traumatic brain injury is the leading cause of death in young adults. We are proud that our support will play a role in studying this injury and helping the brightest minds in the country to learn more about its causes, its treatment and its long term effects.

Head Health Initiative

In March of last year, we announced with GE the Head Health Initiative, a four-year, \$60 million collaboration to speed diagnosis and improve treatment for mild traumatic brain injury. The goal of the research and innovation program is to improve the safety of athletes, members of the military and society overall.

The initiative includes a four-year, \$40 million research and development program to evaluate and develop next generation imaging technologies to improve diagnosis that would allow for targeting treatment therapy for patients with mild traumatic brain injury.

In addition to the research program, the NFL is partnering with GE and Under Armour to launch the Head Health Challenge, which has two focus areas that seek new solutions for understanding mild traumatic brain injury. The organizations are pledging to find and fund ideas that accelerate solutions for brain protection. The challenge fund could invest up to \$20 million.

We received more than 400 submissions from people in 27 countries to the first innovation challenge. All of these ideas were directed toward better ways to diagnose brain injury. In January, with GE, we presented 16 winners from around the world, \$300,000 each with an opportunity to win another \$500,000 in the next year. The expert judges from the military, NIH and others believe that the 16 winners all have a realistic chance to make a difference in the diagnosis and prognosis of traumatic brain injury in a short time.

The second challenge which focused on methods for protecting the brain from injury, recently closed. This challenge was even more popular. The website received more than 40,000 visitors from more than 100 countries. In the end, inventors, entrepreneurs, academics and others submitted more than 450 ideas representing 19 different countries around the world. We are reviewing the submissions now with the intent of making awards this September.

Mr. Chairman, this is a brief summary of the efforts that the NFL is making to improve sports safety. I have also attached the NFL's 2013 annual health and safety report. We look forward to engaging with your committee to these ends.

Thank you.