



# 2015 NFL HEALTH AND SAFETY REPORT



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# NFL HEALTH AND SAFETY BY THE NUMBERS

## SINCE 2012...

Concussions in regular season NFL games down



# 35%

Concussions caused by helmet-to-helmet hits in regular season NFL games down



# 43%

## SINCE 2013...

Hits to defenseless players down

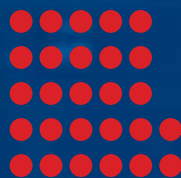


# 68%



# 32

All NFL clubs use electronic medical records



# 27

Average number of expert health providers at every NFL game to provide care to players



# 40

Nearly 40 rule changes in the last 10 years to make the game better and safer

## GE-NFL HEAD HEALTH INITIATIVE



# 3

Challenges



# 1K+

Concepts for innovations submitted



# 30

Countries represented

## NFL FOUNDATION

# \$49M+

Invested in grants over the past 17 years, revitalizing nearly 435 playing fields



# 16



NFL clubs have developed programs to increase access to athletic trainers in their communities

## HEADS UP FOOTBALL



Youth leagues that participate in HUF saw a decrease in:

**INJURIES BY**

# ▼ 76%

**CONCUSSIONS BY**

# ▼ 34%

# 6,300+

Youth leagues and 1,000+ high schools participate

# 1,000,000+

Players benefitting, representing 150,000+ coaches

# MESSAGE FROM COMMISSIONER ROGER GOODELL



Each year, I am proud to introduce the NFL's Health and Safety Report. We embrace the opportunity to share the important work the NFL is leading to advance safety, from the science lab to the playing field, for current, former and future players, and for athletes in all sports.

We have seen a decline in concussions in our games, and hits to defenseless players are down as well. We have made nearly 40 rule changes in the past decade to promote player safety. Football has never been safer than it is right now. And we have no higher priority than to continue this progress through a core characteristic of our game: teamwork.

We continually bring together the foremost authorities in health, safety and related technologies, and this year we are especially proud to welcome the leadership of Dr. Elizabeth "Betsy" Nabel, our new Chief Health and Medical Advisor. With peers in other sports leagues and other groups who share our goals, we are investing in programs like the GE-NFL Head Health Initiative and our grant to the National Institutes of Health to bring transformative developments to sports and beyond.

New discoveries inform how we are refining roles and rules on game day to make the right call for player health and safety. As just one example, this season the NFL is instituting a new medical timeout, which permits independent athletic trainers in the press box to notify an official to stop play if a player appears to

need medical help, with neither team charged for a timeout.

There must be no confusion: The health of our players will always take precedence over competitive concerns. That principle informs all of the work discussed in this report.

Our commitment to players is lifelong. In the past seven years, more than 3,500 former players have benefited from a free screening program focused on comprehensive health and wellness. In communities across America, we are changing the culture around youth sports for the better through programs such as Heads Up Football that rally strong teams of coaches, players, parents, teachers, health professionals and partner organizations.

Across the board, we are seeing significant and sustained improvements. But our work cannot and will not stop. I look forward to reporting even more successes this time next year.

**Roger Goodell**  
NFL Commissioner

A handwritten signature of Roger Goodell in black ink. The signature is cursive and stylized, with the first letters of 'R' and 'G' being large and prominent. The background is a light, textured surface.

# MESSAGE FROM DR. JOHN YORK



You will see in this report the details of a deep and growing culture of safety within professional football — a culture that is producing real and important results for athletes of all ages.

Everyone involved with our league understands that continued progress requires a sustained effort, and that we must continue our intense focus on player health and safety. We have the right people and plans in place to build on our momentum.

In my role as Chairman of the NFL Owners' Committee on Health and Safety, I have the privilege of working with many prominent medical experts who volunteer their time to advise the league on health and safety matters. The vast array of institutions and individuals who offer their counsel has given rise to what I call the "NFL University." This concept embodies the thoughtful collaboration, depth of expertise and actionable insights that are central to our work on these important issues.

Our efforts, in close coordination with the league, have led to rule changes, better equipment, improved medical care and breakthroughs on everything from orthopedic injuries to the quality of the surfaces we use. We are increasingly sophisticated in our injury data collection and analysis. Last year, for the first time, all 32 clubs collected injury data using electronic medical records. This allows us to track player health and analyze significant amounts of information to drive change and make the game

safer. We've made tremendous gains and learned much in the past 10 to 15 years. We are still learning.

As a team executive, I understand the importance of bringing in the best talent to work toward a common goal. To this end, the NFL uses its unmatched platform to unite key parties from a cross-section of sports and professions to improve health and safety for a variety of people from all walks of life. I especially look forward to working with new Chief Health and Medical Advisor Dr. Betsy Nabel this year.

Together, we will support major investments in independent research, innovations in head health and continuing education for coaches, trainers, families and young players. We will live our mission to have football taught and played safely at all ages, and to improve safety in all sports, for athletes at all levels.

As a team, we will continue to lead the way.

**John York, M.D.**

Co-Chairman, San Francisco 49ers  
Chairman of the NFL Owners'  
Committee on Health and Safety

A handwritten signature in black ink that reads "John York". The signature is written in a cursive, slightly slanted style.

# ALL-PRO INNOVATORS: LEADING THE WAY IN HEALTH AND SAFETY SCIENCE

Through major investments in independent research, groundbreaking innovations in head health and knowledge sharing across sports, the NFL is leading the way in improving health and safety for all athletes of all ages.

We have an unparalleled platform to create new collaborations across medicine, science and technology. We are committed to engaging experts from diverse disciplines to advance a culture of safety. And as part of that effort, we have added a new senior medical expert to lead our efforts: Dr. Betsy Nabel, who brings leadership experience from the National Institutes of Health (NIH), Harvard University and one of the top hospitals in the world — Brigham and Women's Hospital.





# MESSAGE FROM DR. BETSY NABEL



It is an honor to join the NFL as its first Chief Health and Medical Advisor.

I believe in the transformative power of science. When Commissioner Goodell asked me to take on this strategic advisory role, he committed to harnessing the resources of the NFL to improve the safety of all sports.

As a physician, a scientist, a mother and a fan of football and sports in general, I welcome the opportunity to advance our understanding of the factors and conditions that will promote our players' health and safety. Through support of research, we will better understand the basic biology of sports injury, including concussion and traumatic brain injury, so we are prepared to prevent, diagnose and treat injuries. The NFL has an opportunity to advance the health and safety of current and former players, as well as players across all sports — men and women, boys and girls. They have the platform to make change happen.

Since joining the NFL in February 2015, I have seen how developments in research, innovation and protocols can improve safety across sports. The NFL has enlisted the best and brightest minds for its medical advisory committees so we can improve our prevention, diagnosis and treatment of injuries. You will read about many of the highlights in this report.

I welcome the opportunity to work with Commissioner Goodell and the medical advisory committees to support their progress. The application of medical research and technological advances, combined with the training of players and coaches, has made the game safer, but there is more to do. The NFL's medical advisory committees and I will keep working to find ways to make professional football — and sports for athletes of all ages and at all stages — safer.

**Elizabeth G. Nabel, M.D.**

NFL Chief Health and Medical Advisor

A handwritten signature in blue ink that reads "Betsy". The signature is written in a cursive, flowing style.



# SPECIAL TEAMS: MEDICAL COMMITTEES ADVANCE SAFETY HEAD TO TOE

The NFL is advised by some of the finest medical and scientific experts in the country through a number of specialized medical committees. Under the strategic leadership of Drs. York and Nabel, these committees volunteer their time to improve player health and safety by exploring groundbreaking research, updating medical protocols and enlisting medical personnel to address specific needs.

## HEAD, NECK AND SPINE COMMITTEE

**Co-Chairman:** Dr. Richard G. Ellenbogen, University of Washington Medicine Professor and Chairman of the Department of Neurological Surgery

**Co-Chairman:** Dr. Hunt Batjer, Lois C.A. and Darwin E. Smith Distinguished Chair in Neurological Surgery UT Southwestern

This committee addresses a number of essential issues, including the prevention of head injuries and the improvement of medical protocols, diagnosis and treatment. Additionally, they manage a significant portfolio of advanced neuroscience research designed to deepen understanding and awareness about the brain and the science to protect it.

## ENGINEERING SUBCOMMITTEE

**Chairman:** Dr. Jeff Crandall, Professor of Engineering and Applied Sciences at the University of Virginia

This subcommittee includes a diverse and experienced group of technical experts — biomechanical engineers, biomedical engineers, material scientists — who study helmets, pads and other protective equipment to improve safety on the field. They engage in significant research designed to advance the development of protective equipment.

## INJURY AND SAFETY PANEL

**Chairman:** Dr. Elliott Hershman, Chairman of Orthopedics at Lenox Hill Hospital and Team Orthopedist of the New York Jets

The Injury and Safety Panel is the NFL's oldest active medical committee. The panel's primary responsibilities include oversight of the various medical committees. In conjunction with the NFL Players Association (NFLPA), the panel also reviews injury data, makes recommendations on research projects and identifies issues for the other committees to address. As an example, the panel's injury analysis is used by the NFL Competition Committee to consider rule changes and to examine injury consequences of those rule changes.

## CARDIOVASCULAR HEALTH SUBCOMMITTEE

**Co-Chairman:** Dr. Andrew Tucker, Medical Director of Sports Medicine at MedStar Union Memorial Hospital and Head Team Physician of the Baltimore Ravens

**Co-Chairman:** Dr. Robert A. Vogel, Clinical Professor of Medicine, University of Colorado Denver; Former Professor of Medicine and Head of Cardiology, University of Maryland

The NFL Subcommittee on Cardiovascular Health explores issues relevant to the heart health of both active and former players, including significant research projects designed to examine the particular needs of the NFL player population.

## FOOT AND ANKLE SUBCOMMITTEE

**Co-Chairman:** Dr. Robert Anderson, Chief of Foot and Ankle Surgery at Carolinas Medical Center in Charlotte, NC

**Co-Chairman:** Dr. Michael Coughlin, Clinical Professor of Orthopedic Surgery at the University of California San Francisco Foot and Ankle Service

This subcommittee works to prevent lower-limb injuries through fundamental and applied research. A majority of injuries to NFL players affect their lower extremities. Orthopedic issues with the foot and ankle may cause significant player time loss.

# HEAD, NECK AND SPINE COMMITTEE

In the past year, the Head, Neck and Spine Committee worked closely with the NFL Players Association (NFLPA) to further refine and enhance the NFL's concussion protocol. With feedback from physicians, athletic trainers, unaffiliated neurotrauma consultants (UNCs) and the players themselves, the committee looked to improve ways to identify signs and symptoms of concussions, advance sideline protocols and ensure players receive the best treatment available. Additionally, they played an integral role in developing the mechanism to stop the game to assist a player and worked with the Competition Committee to adopt the medical timeout.

## **INTERNATIONAL CONFERENCE ON CONCUSSIONS: UNITING SPORTS IN A COMMON CAUSE**

Soccer, hockey, rugby — sports around the world share a common concern with American football: the need to effectively prevent, identify and manage head injuries.

In August 2014, the NFL — led by Dr. Rich Ellenbogen, Co-Chairman of the NFL's Head, Neck and Spine Committee — brought international sports leagues together in New York for the first International Professional Sports Concussion Research Think Tank.

Organizations “need to look at all variations of what is being done around the world,” Ellenbogen said. “Convening a global conversation on concussion research will only further the science and understanding of this unique injury and make sports safer for athletes and the general population.”

## **A FIRST FOR PLAYER SAFETY**

The meeting marked the first time international sports federations and several U.S.-based professional leagues banded together to identify promising areas for collaborative research and coordinate these efforts. Over two days at the NFL's headquarters in New

**“WE ALL HAVE COMMON PROBLEMS...WITH RESPECT TO CONCUSSION. IF WE GET TOGETHER AND SHARE OUR INFORMATION AND KNOWLEDGE AND COOPERATE WITH RESEARCH, THEN WE'RE GOING TO BE MOVING FORWARD.”**

**Martin Raftery**, Chairman, International Rugby Board, USA Today, August 24, 2014

York, attendees hammered out priorities, including:

- ▶ Research that enhances sideline assessment tools for concussions
- ▶ Improved rehabilitation techniques for enhancing recovery — and how they work
- ▶ Research programs to improve concussion recognition and management
- ▶ Better understanding of long-term effects of repeated head trauma

The first of these collaborations is already well underway. The NFL and the Canadian Football League (CFL) are jointly examining how an eye movement test — the King-Devick test — may improve

concussion diagnosis on the sideline. Four CFL clubs and several Canadian universities are adding the King-Devick test to their current sideline protocol for concussions. The goal is to see if the test improves the accuracy of diagnosis and therefore identifies players who need to be removed from play — and those who do not.

There is more to come. These leagues will convene for a second international think tank meeting in October 2015 in London, where new joint research projects will be announced.

#### HIGHLIGHT REEL

##### A POWERFUL GLOBAL TEAM

International Conference attendees included representatives from:

- ▶ Australian Football League
- ▶ European Horseracing
- ▶ Fédération Equestre Internationale
- ▶ Fédération Internationale de Football Association
- ▶ International Rugby Board
- ▶ National Collegiate Athletic Association
- ▶ National Hockey League
- ▶ National Rugby League
- ▶ Paul G. Allen Family Foundation
- ▶ United States Army
- ▶ United States Olympic Committee



“THIS IS AN  
EXCITING  
DEVELOPMENT  
IN THE SCIENCE  
OF SPORTS  
CONCUSSION.”

**Paul McCrory**, Associate Professor at the Florey Institute of Neuroscience and Mental Health, August 24, 2014, *The Age* (a publication covering Australian Rules Football)

# ENGINEERING SUBCOMMITTEE

In October 2014, the Head, Neck and Spine Committee added a new subcommittee to its roster: the Engineering Subcommittee. The subcommittee concluded its first project in July 2015.

The NFL and NFL Players Association (NFLPA) jointly sponsored a laboratory study to assess the performance of helmets worn by NFL players. Specifically, the relative performance of helmets was evaluated under laboratory conditions that simulated open-field collisions in the NFL.

All testing was performed independently by Biokinetics, a test facility located in Ottawa, Canada. Analysis of the data was performed by the NFL Head, Neck and Spine Engineering Subcommittee, two NFLPA engineering consultants and an independent biostatistician.

The laboratory testing involved 17 helmet models intended for use in the NFL during the upcoming 2015 season. A preliminary survey of helmets used by NFL teams was conducted to assess the frequency of helmet models used in the NFL and to ensure that more than 99 percent of all helmet models used by players were included in the testing.

The helmets were impacted at eight locations, including the facemask, front, side and rear of the helmet, to represent the most commonly observed points of contact in reviews of NFL game films.

Importantly, this study is the first of its kind to account for rotational velocity and rotational acceleration in measuring the performance of the helmets. There is mounting scientific evidence that concussions have a component of their injury caused by rotational motions of the head impact.

The helmets have been categorized into two groups based on their ability to manage

the laboratory impacts. The top performing helmets were statistically better performers than the helmets in the second group in terms of reducing the severity of the laboratory head impacts. It is important to remember, however, that all helmets tested passed National Operating Committee on Standards for Athletic Equipment (NOCSAE) certification and are therefore permitted to be worn by NFL players at their discretion.



*This poster presenting the findings of the helmet laboratory study was shared with all NFL clubs to help equipment managers and players make informed decisions with regard to their helmet choice.*

# CARDIOVASCULAR HEALTH SUBCOMMITTEE

The The NFL Cardiovascular Health Subcommittee explores issues relevant to the heart health of active and former players.

We know that former NFL players have lower rates of heart disease and lower mortality from cardiovascular conditions than the general population. But maintaining those good results in the next generation of retirees is a key focus. The Cardiovascular Health Subcommittee is examining factors such as strength training and increased player sizes while developing a longitudinal study that follows former players for up to a decade after they retire, all as part of assessing longer-term risk profiles.

Members of the Cardiovascular Health Subcommittee concluded in their 2015 research article published in the Journal of the American Society of Hypertension that, contrary to the suggestion of previous findings, there were no racial differences in the prevalence of hypertension or prehypertension.



# FOOT AND ANKLE SUBCOMMITTEE

Lower-limb issues are responsible for approximately 60 percent of all NFL injuries and more player time loss than any other injury category. With this statistic in mind, the Foot and Ankle Subcommittee has supported several studies looking at the biomechanics of specific foot and ankle injuries. The subcommittee also evaluates shoes — their traction, their fit, their “flexion” (bending) and more — and their role as safety equipment, not just footwear. The subcommittee is sharing this information with players, equipment managers and shoe companies.

This year, the subcommittee also produced a video for all equipment managers to help educate and guide them on the proper methods for measuring players’ feet and fitting shoes correctly. In addition, because the sizing of the various shoe manufacturers is inconsistent, the committee worked to produce a unique NFL Brannock Device. Each team received this sizing tool that measures feet in millimeters as opposed to shoe sizes. As a result, players’ shoe fitting will be improved, with the expectation of experts being that they will be less susceptible to foot and ankle injuries.

The subcommittee’s work doesn’t stop there. Three years ago, the leadership of this subcommittee helped to form the Ad Hoc Committee on NFL Field Surfaces. With membership consisting of engineers, physicians, turf scientists and infill surface

manufacturers, the ad hoc committee created “Game Day Surface Guidelines” to improve the quality of infill and natural playing surfaces to support player safety. Fields are monitored by independent inspectors to ensure the guidelines are followed, and stadium field managers are required to submit weekly reports to confirm the quality of their fields.

With improved quality of fields, along with the innovative work by shoe manufacturers, the goal is to ultimately diminish the risk of knee, ankle and foot injuries.

**“THE PRIMARY GOAL OF OUR COMMITTEE IS TO ENABLE AND MOTIVATE BOTH THE INDUSTRY AND THE PLAYERS TO MORE THINK OF THE SHOE AS A PIECE OF PERSONAL PROTECTIVE EQUIPMENT.”**

**Dr. Richard Kent**, Deputy Director for the Center of Applied Bio-Mechanics, University of Virginia

## HIGHLIGHT REEL

### ABOUT THE GE-NFL HEAD HEALTH INITIATIVE

Aiming to improve the safety of athletes, members of the military and society overall, GE and the NFL have teamed up to accelerate concussion research, prevention, diagnosis and treatment. The multi-year collaboration includes two components:

#### 1. Open Innovation Program

The program spurs disruptive advancements by awarding grants to scientists, academics, experts and entrepreneurs worldwide across three innovation challenges, each addressing important and difficult scientific questions:

- ▶ Head Health Challenge I (2013): Diagnosis and Prognosis of Mild Traumatic Brain Injuries
- ▶ Head Health Challenge II (2014): Prevention of Brain Injuries (in partnership with Under Armour)
- ▶ Head Health Challenge III (2015): Development of Advanced Materials for Impact Mitigation (in partnership with Under Armour and the National Institute for Standards and Technology)

#### 2. Research and Development Initiative

This four-year research and development program will develop next-generation imaging technologies that take a whole-brain approach to improving the diagnosis and treatment of patients with mild traumatic brain injury. Clinical studies at some of the nation’s leading institutions are informing the development of this new technology.

# HEAD HEALTH: PARTNERSHIPS, PROJECTS AND PROGRESS

Since the program's start in 2013, grantees of the Head Health Initiative, a joint endeavor between the NFL and GE, have spurred research and development around new brain imaging technologies. The work has achieved promising breakthroughs — from blood tests that speed the diagnosis of brain injury to new solutions for mitigating the force of impact.

## CHALLENGE I: NEW TOOLS FOR CONCUSSION IDENTIFICATION

In July 2015, GE and the NFL announced the six grand prize winners of the \$10 million Head Health Challenge I. This challenge supports innovations that speed diagnosis for mild traumatic brain injury (mTBI). These winners were selected from an initial group of 16 challenge finalists, narrowed from a pool of more than 400 entries from 27 countries. The 16 challenge finalists proceeded to the next round and received a \$300,000 award to continue their efforts. From there, six grand prize winners were identified. Each demonstrated substantial progress during the past year and won an additional \$500,000 award to advance their work.

**DID YOU KNOW? MORE THAN 1,000 CONCEPTS HAVE BEEN SUBMITTED TO HEAD HEALTH CHALLENGES FROM 30 COUNTRIES.**

### **Banyan Biomarkers, Inc., Alachua, Fla.**

- ▶ Implementing a first-of-its-kind point-of-care blood test to rapidly detect the presence of mild and moderate brain trauma
- ▶ Working with the University of Florida to analyze biomarkers, neurocognitive testing and neuroimaging on concussed athletes

### **BrainScope Company, Inc., Bethesda, Md.**

- ▶ Developing urgent care, handheld electroencephalogram-based traumatic brain injury detection technology
- ▶ Working with the Purdue Neurotrauma Group to study collegiate athletes using imaging biomarkers to potentially enhance BrainScope's technology and evaluate the potential to serve as a surrogate for other imaging biomarkers

### **Medical College of Wisconsin, Milwaukee, Wis.**

- ▶ Innovating magnetic resonance imaging (MRI) scanning technology to determine the effects of sports-related concussions on brain structure and function
- ▶ Conducting a study to advance more objective ways of diagnosing concussion and judging ability to return to play

### **The University of California, Santa Barbara (UCSB), Santa Barbara, Calif.**

- ▶ Creating novel software tools for determining if connections that transmit information across different parts of the brain are damaged after head injury
- ▶ Using state-of-the-art MRI in the UCSB Brain Imaging Center's laboratory to determine areas of the brain that may become disconnected due to information transmission loss after injury

**The University of Montana,  
Missoula, Mont.**

- ▶ Identifying blood-based biomarkers that indicate how the brain reacts following a traumatic brain injury
- ▶ Exploring levels of proteins and ribonucleic acid (RNA), among other potential markers, as indicators for brain injury and recovery progression

**Quanterix, Lexington, Mass.**

- ▶ Developing a simple blood test to aid in the detection of traumatic brain injury
- ▶ Using digital immunoassay technology to measure biomarkers of brain injury in the blood



**CHALLENGE II:  
IMPROVING THE  
DETECTION AND  
PREVENTION OF  
BRAIN INJURY**

In November 2014, the NFL and GE partnered with Under Armour and announced the first round of winners of Head Health Challenge

II. This competition attracted more than 450 ideas from 19 countries — all for better protecting the brain from a concussion. The winners of the first round each claimed \$500,000 and now are competing for up to five grand prize awards of up to \$1 million. These final awards will be announced in the fall of 2015 and will be decided based on the progress these seven winners have shown during the past year.

**Army Research Laboratory,  
Baltimore, Md.**

- ▶ Creating helmet tethers that allow voluntary head movement during sports action while minimizing sudden accelerations caused by high-speed collisions often associated with concussions
- ▶ Technology has the potential to mitigate head trauma for members of the military

**Emory University, Atlanta, Ga.**

- ▶ Developing the handheld iDETECT prototype medical device that can screen and assess concussions from the sidelines in near real-time
- ▶ Rapidly assesses players' symptoms, including cognitive function, balance and eye movements

**“BY LEVERAGING RESOURCES AND POOLING EXPERTISE, WE CAN EXPAND OUR UNDERSTANDING OF BRAIN INJURY AND ACCELERATE THE DEVELOPMENT OF NEW TECHNOLOGIES THAT WILL HOPEFULLY REDUCE THE PROBABILITY AND SEVERITY OF THESE INJURIES FOR BOTH SOLDIERS AND ATHLETES.”**

*Dr. Eric Wetzel, Technical Manager for Materials for Soldier Protection, Army Research Laboratory, Army.mil, November 18, 2014*

**UCLA and Architected Materials,  
Inc., Los Angeles, Calif**

- ▶ Using microlattice material to create an under-helmet liner that absorbs substantially more energy than current materials and better protects the brain
- ▶ Collaboration of materials designers, mechanical impact experts and neuroscientists would use a 3-D printing platform to develop real-time responsive helmet technology

**The University of Miami Miller School  
of Medicine, Coral Gables, Fla.  
(Collaborating with the University  
of Pittsburgh School of Medicine  
and Neuro Kinetics, Inc.)**

- ▶ Creating a portable eye goggle that will help identify mild traumatic brain injury in real-time

**“WE HAVE CREATED A DYNAMIC FORUM THAT ENERGIZES PEOPLE TO JOIN OUR PURSUIT OF BREAKTHROUGH SOLUTIONS AND EMPOWERS THESE INNOVATORS WITH SUBSTANTIAL FINANCIAL SUPPORT.”**

*Kevin Plank, Founder and CEO, Under Armour,  
media announcement, November 13, 2014*





by gathering and measuring precise eye movements, leading to more accurate diagnosis

- ▶ Research began in the U.S. military at the Army Medical Research and Materials Command and the Department of Defense Hearing Center of Excellence

#### **The University of Washington and VICIS, Inc., Seattle, Wash.**

- ▶ Developing a safer, more force-absorbing football helmet to better protect against head injuries
- ▶ Team includes thought-leading engineers and neurosurgeons, public health experts and business leaders committed to elevating athlete performance via science

#### **The University of New Hampshire, Durham, N.H.**

- ▶ Evaluating the HUTT Technique, a helmetless tackling training system used in many high schools
- ▶ Research will examine if regular implementation of the technique results in player behavior change and reduces injury risk by reinforcing proper technique when players go into full-equipment play

#### **Viconic, Inc., Detroit, Mich.**

- ▶ Creating an under-layer for synthetic turf systems that would make turf fields safer
- ▶ Would further explore the relationship between optimized head-injury protection and the frequency of lower-limb injuries to provide the turf industry with a tool to specify systems that maximize safety and minimize costs

## **NIST**

### **CHALLENGE III: CALL FOR MATERIALS — THE NEXT FRONTIER**

In May 2014, the White House convened the Healthy Kids and Safe Sports Concussion Summit. There, the National Institute of Standards Technology (NIST) committed to lending its expertise to making youth sports safer.

As a result, the NFL, GE, Under Armour and the Department of Commerce began discussions on how to collaboratively advance their shared goals of using innovative science to make sports safer. NIST officially joined the Head Health Challenge team

in 2015 to advance the goal of uncovering new, innovative materials designed to better withstand force and protect against concussion.

In Challenge III, the four partners called on the material science community to answer the following question:

*Can your material withstand a force range of up to 12 kilonewtons, withstand 1,200 impacts above 20 KE (J) and perform in temperatures from 0-40 degrees Celsius, with up to 100 percent humidity?*

NIST's expertise will be put to the test as they design a new methodology to examine the submissions and create standards for the rest of the industry to follow. Head Health Challenge partners and an expert panel of judges will select up to six materials tested by NIST and determined to best absorb force, dissipate energy and transfer momentum. The new materials will transcend sports to benefit the military and society at large.



**“WE WANT TO ENGAGE THE MOST CREATIVE TECHNICAL EXPERTS TO IDENTIFY ADVANCED MATERIALS THAT IMPROVE THE HEALTH AND SAFETY OF ATHLETES, SOLDIERS AND FIRST RESPONDERS.”**

**Dr. Willie May**, Acting Undersecretary of Commerce for Standards and Technology and Acting NIST Director, NIST media announcement, January 29, 2015

# GE-NFL HEAD HEALTH INITIATIVE



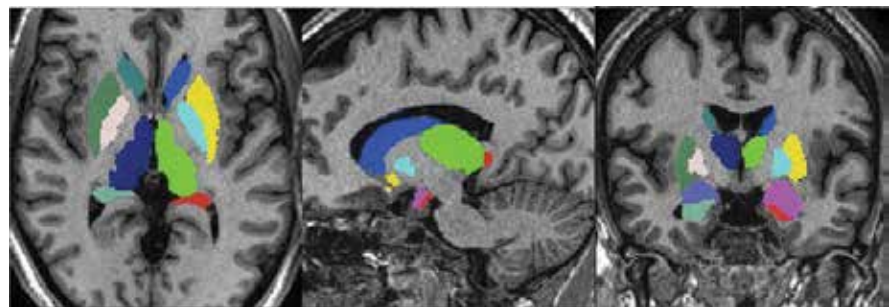
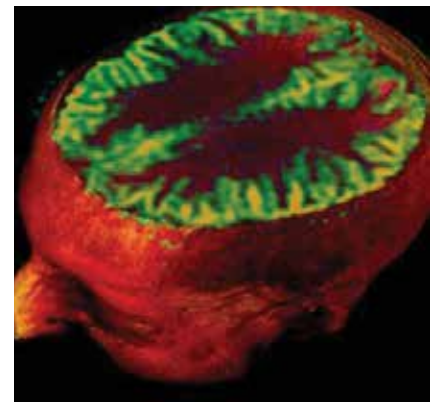
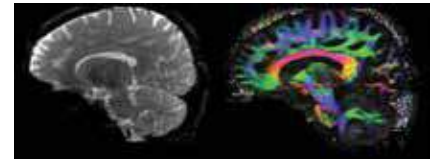
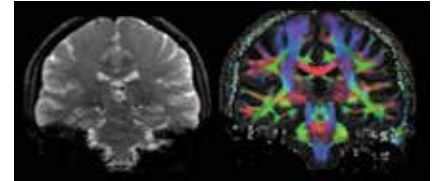
INNOVATION • ADVANCEMENT • PROGRESS

As part of the Joint Development Agreement with General Electric's Magnetic Resonance division, the NFL continues to actively support clinical research into the use of MRI as a tool for improved diagnosis and evaluation of concussions by developing advanced methods of imaging and quantifying brain function.

The NFL's Head, Neck and Spine Committee is actively engaged in Medical Advisory Boards and partnering with a number of leading healthcare facilities to perform clinical trials, including University of California San Francisco, Houston Methodist, Hospital for Special Surgery, Medical College of Wisconsin, University of Pittsburgh Medical Center Sports Medicine Concussion Program, University of Michigan and University of Miami Miller School of Medicine. If the outcomes from the clinical trials are positive, it will potentially result in new methods of medical imaging specific for the evaluation of concussions and management of patients. This exciting work continues to be experimental and is part of a four-year project.

As part of the GE-NFL Head Health Initiative, the research program utilizes state-of-the-art MRI technology to understand how mTBI affects the brain. The studies seek to establish imaging biomarkers that

could aid in the diagnosis and treatment management of mTBI. Potential imaging biomarkers being explored are: changes in the volumes of the subcortical structures (shown in image), detection of microbleeds, the measurement of cerebral blood flow (shown as perfusion in the image), structural connectivity of the brain (shown as diffusion in the image), functional connectivity of the brain and changes in key metabolites for brain function.



*The images shown were obtained using an investigational device limited by law to investigational use, and not cleared, approved, licensed or authorized by the U.S. FDA or other regulatory authorities for commercial availability.*

# FROM THE BENCH: NIH RESEARCHERS TURN GRANTS INTO ANSWERS

Honing in on a diagnosis. Tracking progress throughout recovery. Linking causes to effect. These milestones are crucial to promoting and improving head health and strengthening a culture of safety. And they are the focus of some of the world's top research teams, conducting original projects through the Sports and Health Research Program (SHRP).

In 2012, the NFL launched the SHRP with the Foundation for the National Institutes of Health (FNIH) with a critical imperative: to advance scientific understanding of concussion and head injury in athletes, military service members and veterans, and the general population.

Uniting diverse areas of expertise in necessary areas of inquiry, the work of these SHRP researchers shows tremendous promise.

## **SHARPENING DIAGNOSIS**

How can a physician more conclusively tell what disorder caused brain damage? The answer may become much clearer soon, thanks to teams of scientists brought together in two cooperative agreements with the aim of developing standards for chronic traumatic encephalopathy (CTE) diagnosis.

One team, led by Dr. Ann C. McKee of the Boston University

School of Medicine and the U.S. Department of Veterans Affairs, is working together to define the criteria for the stages of CTE and to distinguish CTE from disorders such as Alzheimer's and ALS in post-mortem brain tissue.

Meanwhile, in the second project, led by Dr. Wayne Gordon at Mount Sinai Hospital in New York, a team including researchers from the University of Washington is identifying and describing the chronic effects of mild, moderate and severe traumatic brain injury and comparing these with the features of CTE.

And that's just the beginning. Six new pilot-stage research projects recently launched with the goals of improving concussion diagnosis and identifying ways of tracking a patient's recovery:

▶ **Seattle Children's Hospital, Seattle, Wash.** Using magnetic resonance

spectroscopy to monitor gamma-aminobutyric acid (GABA) levels in adolescents who have sports-related concussions and compare levels to those in adolescents without injuries

- ▶ **Nationwide Children's Hospital, Columbus, Ohio, and Colorado School of Public Health, University of Colorado, Aurora, Colo.** Evaluating mobile app Spot Light's effectiveness in generating more reports of concussions, more referrals to doctors and better adherence to return-to-play guidelines
- ▶ **Indiana University School of Optometry, Bloomington, Ind.** Developing a portable eye-tracking instrument to help diagnose concussions on the sidelines and to monitor injury progression in high school and college athletes
- ▶ **Baylor College of Medicine, Houston, Texas.** Looking at concussions' effects on

brain structure and function in adolescents cleared to play and evaluating potential biomarkers for concussions and recovery

- ▶ **Kennedy Krieger Institute, Baltimore, Md.** Investigating the potential of somatosensory system information processing (which processes information such as what an object feels like to touch) as a biomarker for concussion and recovery in youth aged 13 to 17
- ▶ **Massachusetts General Hospital, Boston, Mass.** Studying post-concussion changes in brain molecules and byproducts to uncover metabolites (a type of molecule) that contribute to serious effects of traumatic brain injury and identify potential targets for detecting and treating concussions

As announced at the 2014 Healthy Kids and Safe Sports Concussion Summit at the White House, the NIH has committed \$16 million from the NFL's initial \$30 million grant for a longitudinal study to research the chronic effects of repetitive concussions. The study will aim to use longitudinal data to better understand the neurological mechanisms of CTE and enable the development of an evidence-based clinical diagnosis. The findings of this study could provide direction for clinical trials focused on preventing or slowing long-term effects of the injury. The NIH will grant the award later this year.

# GAME PLAN: Q&A WITH DR. BETSY NABEL, THE NFL'S FIRST CHIEF HEALTH AND MEDICAL ADVISOR

President of Brigham and Women's Hospital in Boston since 2010. Professor of medicine at Harvard Medical School. Former Director of the National Heart, Lung and Blood Institute at NIH. Cardiologist. In February 2015, Dr. Betsy Nabel added Chief Health and Medical Advisor to this impressive list of credentials — and she is already hard at work transforming how the NFL is working to improve player health and safety.

**Q: What drew you to this role with the NFL?**

**A:** With the NFL's deep commitment to scientific research — and the great concern in the sport surrounding health, especially concussions — I saw the potential to make an impact. I am a firm believer in the power of supporting research in order to make fundamental discoveries and translating those discoveries into medical advances. In this case, the mission is to improve the health and safety of athletes in football and really across sports — professional and amateur, youth and adult.

**Q: Traumas like repetitive head injuries are complicated to prevent, detect, diagnose and treat. What do you see as essential to tackling the complexities?**

**A:** We need to start from the beginning — understanding the basic biology, the basic mechanisms, and gain a fundamental understanding of the condition. Only then will we have a solid foundation for designing diagnostic tools and developing treatment modalities. The science in this area is moving fast, and through the NFL's research and evolving partnerships, they're doing everything they can to expedite progress.

**Q:** Your bio for Boston Magazine’s “50 Most Powerful People” references “breaking boundaries” as one of your strengths. Give an example of how you see yourself doing this in your role with the NFL.

**A:** Partnerships are one key area — nurturing and expanding upon those already forged by the NFL. Scientific research by nature is highly focused, with breakthroughs happening in very discrete areas, yet these incremental breakthroughs are where important advances happen. My goal is to ensure that research discoveries and medical advancements made by NFL-supported research and programs have a ripple effect. That’s why our partnerships are so critical — with the NCAA, with youth sports, across other sports and leagues for women and men. To make sports as safe as they can be, we’ll need to work together.

**Q:** Talk about how your perspectives as a physician and a parent are shaping your new role.

**A:** Even as a kid, I had an interest in science, health and wellness. As a physician, I know that being physically active is a big part of staying healthy. By helping to make sports safer, I can be a part of improving the health of our society as a whole, and that’s very exciting! As a parent, and hopefully someday a grandparent, I’m proud to play a role in shaping a culture of safety for the next generation.



## HIGHLIGHT REEL

### DR. NABEL STAT SHEET

**Seventeen patents and more than 250 scientific publications**

**Recipient of the Kober Medal**, the highest honor of the Association of American Physicians

**\$3 billion in research projects** overseen at the NIH National Heart, Lung and Blood Institute

**Three children (a son and two daughters)** who are pursuing careers in medicine and science

**“THE NFL HAS THE PLATFORM BY WHICH IT CAN REALLY SET SAFETY STANDARDS FOR SPORTS AROUND THE COUNTRY.”**

**Dr. Betsy Nabel**, NFL Chief Health and Medical Advisor

# RULES, ROLES AND RESOURCES: MAKING A DIFFERENCE ON THE FIELD

A desire to constantly improve our game has transformed football into America's most popular sport. We are applying this spirit of innovation — along with insights from health and safety leaders — to protect the players who make it possible.

This approach is yielding results. Ongoing rule changes have sparked a progressive reduction in player concussions. And more changes are happening — including new technology on the sidelines and expanded roles for independent experts to strengthen medical support.

As the game continues to transform, our commitment to the health of our players — and a culture of safety — remains stronger than ever.



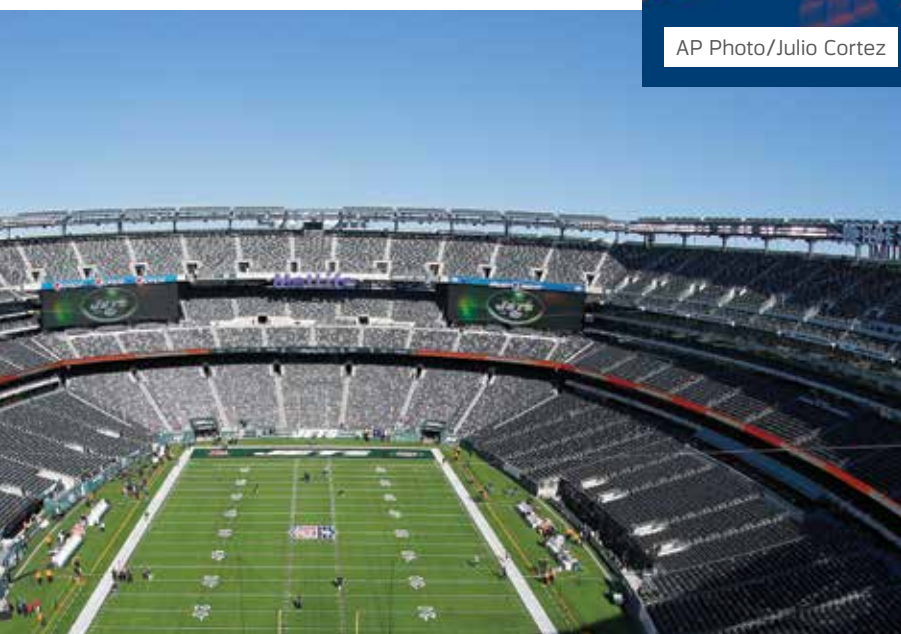
AP Photo/Ric Tapia



AP Photo/Gerald Herbert



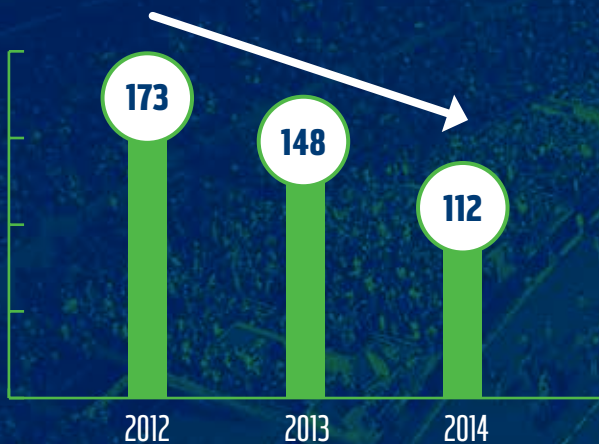
AP Photo/Julio Cortez



# MEASURING PROGRESS

Changes in rules, enforcement, injury protocols and improved equipment as well as players and coaches embracing a culture change have yielded important advancements on the field — including a decline in concussions. Injury data is regularly analyzed to assess the effectiveness of new rules and inform potential future improvements. Through an ongoing review of rules and protocol, the league continues to make the game better and safer.

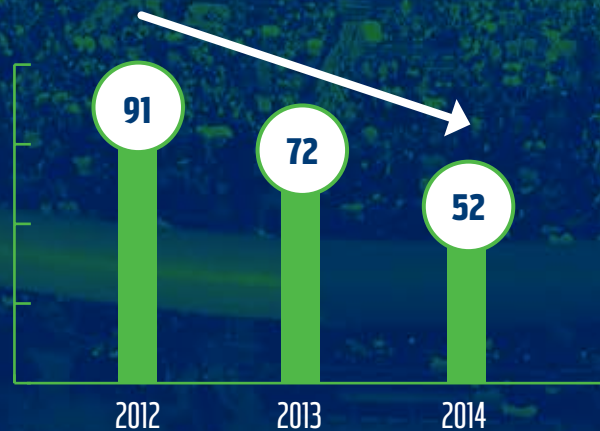
**CONCUSSIONS IN  
REGULAR SEASON GAMES  
DOWN 35%**



**COMPARED TO 2013, HITS TO  
DEFENSELESS PLAYERS  
DOWN 68%**



**CONCUSSIONS CAUSED  
BY HELMET-TO-HELMET HITS  
IN REGULAR SEASON GAMES  
DOWN 43%**



IN THE 2014 SEASON

- 22** PLAYERS ON THE FIELD
- 156** PLAYS PER GAME
- 256** REGULAR SEASON GAMES
- 112** CONCUSSIONS

**= LESS THAN 1/2  
CONCUSSION PER GAME**



# TAKING ACTION FROM ABOVE: THE MEDICAL TIMEOUT

A completed pass moves the ball to the 40-yard line. An official signals for a timeout — only this call doesn't come from the quarterback or the coach. It comes from the press box, where a certified athletic trainer (AT) has noticed a player in need of medical attention.

In March, the NFL approved the medical timeout, which will take effect in the 2015 season. This significant step for safety allows athletic trainer spotters positioned high above the action to alert a referee to call a timeout if they see a player needing assistance.

Besides their view of the field, these athletic trainer spotters have access to all camera angles the replay official can view — as well as significant training and experience. Empowering these “eyes in the sky” just made sense.

“We have the [athletic trainer] spotters, they've got a really good vantage point, they've got technology in their booth,” NFL Competition Committee Co-Chairman Rich McKay explained after the announcement.

## **A LOGICAL PROGRESSION**

The NFL first added independent certified athletic trainer spotters in 2012 to communicate with team medical personnel about potential injuries — with the twin goals of ensuring that players receive prompt medical

attention and preventing potential additional injuries. This year's rule change makes the spotter an even more important contributor to a culture of safety.

**DID YOU KNOW? ANTERIOR CRUCIATE LIGAMENT (ACL) AND MEDIAL CRUCIATE LIGAMENT (MCL) INJURY RATES ARE AT OR BELOW FIVE-YEAR AVERAGES.**

**DID YOU KNOW? INJURY RATES FOR THURSDAY-NIGHT GAMES WERE BELOW THOSE FOR SUNDAY AND MONDAY GAMES FOR EACH OF THE LAST FOUR YEARS.**

**“GAME-DAY MEDICAL CARE OF NFL PLAYERS CONTINUES TO EVOLVE AT A RAPID RATE. THE NFL TEAM PHYSICIANS AND ATHLETIC TRAINERS UTILIZE A VARIETY OF UNIQUE TECHNOLOGICAL INNOVATIONS TO ADVANCE THE HEALTH AND SAFETY OF THEIR PATIENTS — THE NFL PLAYERS.”**

**Dr. Matthew J. Matava**, immediate past President of the NFL Physicians Society and St. Louis Rams Team Physician

**“IT IS A BOLD AND IMPORTANT MOVE TO ALLOW [AT] SPOTTERS TO CALL A TIMEOUT TO HAVE AN ATHLETE EVALUATED. I HOPE OTHER PROFESSIONAL AND AMATEUR SPORTS ORGANIZATIONS WILL TAKE NOTICE AND FOLLOW SUIT.”**

**Dr. Javier Cárdenas**, NFLvolution.com, March 30, 2015

## HIGHLIGHT REEL

### ABOUT THE MEDICAL TIMEOUT

- ▶ If a certified athletic trainer (AT) spotter sees a player with a potential injury staying in the game after a play, the AT can signal the side judge to call a time out.
- ▶ The side judge will alert the medical staff of the player's team.
- ▶ The game and play clock will freeze as the staff attends to the player, escorting him from the field for evaluation. Teams will not be charged with injury timeouts.
- ▶ Medical personnel will evaluate the player and make a return-to-play decision based on an injury evaluation. In the case of a possible concussion, the player will undergo the league's mandatory concussion protocol.

# EXPERT TEAMS AND TECHNOLOGY STRENGTHEN MEDICAL SUPPORT

As the game evolves, so do the sidelines. On average, 27 expert health providers are on hand for every NFL game to provide care to players. With this impressive roster, the NFL continues to enhance player care through the integration and expansion of the roles of several specialists and independent experts.

## LOCAL PHYSICIANS FOR VISITING TEAMS

This season, the medical staff will have a new member: the Visiting Team Medical Liaison. Upon arriving in a city for a game, visiting teams will meet with a local emergency physician certified to practice medicine in that state. This liaison will work with the team to provide for their medical needs, from prescriptions to immediate and guaranteed access to first-rate medical facilities.

## HEAD-INJURY SPECIALISTS STAND GUARD

Since their addition in the 2013 season, unaffiliated neurotrauma consultants (UNCs) have assisted the team medical staff in identifying and evaluating potential head injuries. UNCs are leading concussion specialists in their communities, often neurosurgeons, selected in conjunction with the NFL Players Association (NFLPA). These experts provide team physicians with an additional resource for identifying,

screening and diagnosing potential concussions. This season, the UNCs will continue to integrate their expertise into the game-day medical staff lineup.

Dr. Javier Cárdenas is one of these specialists. As the Medical Director at the Barrow Concussion and Brain Injury Center in Phoenix, Ariz., and a member of the NFL's Head, Neck and Spine Committee, he worked as a UNC for the 2015 Super Bowl and Pro Bowl games.

"In addition to watching for suspicious collisions, I look to see how the athletes are behaving on the field," he said. "Do they look disoriented, sluggish or just off? I've clearly seen a culture change at the NFL level in which more players are self-reporting. That's great. That's what we want to see at all levels."

## PARTNERSHIPS FOR PREVENTION

Injury prevention and care is only one part of athlete health. The league has teamed with the renowned Duke Infection

Control Outreach Network (DICON) to establish a comprehensive program to prevent infections like MRSA in the NFL. DICON inspects all club facilities, develops individual team-by-team infection control plans and promotes education and best practices for infection prevention league-wide to keep NFL players healthy throughout the season.

## LEVERAGING ROBUST TECHNOLOGY

Players will benefit from all 32 teams now using electronic medical records (EMR) on their sidelines. Beta-tested in 2013, the EMR system delivers a player's health information and history to physicians in just seconds.

Besides enhancing care to players on the sidelines, EMR technology supports comprehensive injury surveillance and detailed analysis of injury rates and trends by epidemiologists at Quintiles, the world's largest provider of product development and integrated healthcare services.

**"THE MERGED SYSTEM IS MORE EFFICIENT AND CAPTURES MORE DATA EASILY, SO WE CAN LEARN EVEN MORE ABOUT THE INJURIES WITH OUR PLAYERS."**

**Dr. John York**, Co-Chairman, San Francisco 49ers and Chairman of the NFL Owners' Committee on Health and Safety, NFL press conference, May 12, 2015

“Conducting analytics using EMRs and other game-related information substantially broadens our understanding of player health and safety,” said Dr. Christina Mack, Quintiles Associate Director of Epidemiology. The collection and analysis of this injury data may help inform further advancements to improve player safety.

Along with quick availability of comprehensive electronic medical history, team physicians now have access to sideline video of injuries immediately after they occur to enhance their ability to diagnosis and treat players.

The use of electronic tablets as part of a step-by-step protocol also continues to assist physicians with concussion diagnosis and provide consistent care across the league. As new developments in technology become available, the league will continue to explore ways to integrate these resources.

## THE TEAM BEHIND THE TEAM

### AN INSIDE LOOK AT IN-STADIUM MEDICAL STAFF ON NFL GAME DAYS. EACH SIDELINE HAS:



#### 4 ATHLETIC TRAINERS

Assesses and treats player injuries in conjunction with team doctors



#### 2 PRIMARY CARE PHYSICIANS

Evaluates players for general medical conditions and concussions



#### 2 ORTHOPEDISTS

Evaluates and treats players for injuries to the bones and joints



#### 1 UNAFFILIATED NEUROTRAUMA

Consultant assesses possible head injuries and concussions



#### 1 CHIROPRACTOR

Provides back/spinal adjustments for players and treats muscular injuries

### STADIUM MEDICAL TEAM:



#### 1 INDEPENDENT ATHLETIC TRAINER

Notifies on-field medical staff of possible injuries from press box



#### 1 DENTIST

Treats dental issues



#### 1 OPHTHALMOLOGIST

Treats eye injuries



#### 1 AIRWAY MANAGEMENT PHYSICIAN

Provides emergency intubation to severely injured, non-breathing players



#### 1 RADIOLOGY TECHNICIAN

Takes x-rays of injured players at the stadium



#### 2 EMT/PARAMEDIC CREW

Transports players to hospital in the event of serious injuries

## 27 TOTAL GAME-DAY MEDICAL STAFF

Information provided by the National Football League Physicians Society (NFLPS). Numbers reflect the average number of medical staff present and should not be considered official NFL protocol.

AP Photo/David J. Phillip

## HIGHLIGHT REEL

### ABOUT THE NATIONAL FOOTBALL LEAGUE PHYSICIANS SOCIETY (NFLPS)

The NFLPS is a professional organization founded in 1966 and made up of 170 dedicated, world-class physicians whose mission is to provide superior medical and surgical care to their patients — NFL players. NFLPS members are team doctors focused on the prevention and treatment of injuries in NFL players and are constantly working to improve the care of their patients both on and off the field. Additionally, NFLPS members work closely with athletic trainers, physical therapists, chiropractors and other medical personnel as a cohesive unit to deliver well-rounded care to every NFL player. The NFLPS welcomed a new president in February 2015:

#### Dr. Robert A. Heyer:

Dr. Robert A. Heyer is the President of the NFLPS and Team Internist for the Carolina Panthers. He has been with the team 21 years, since before the team's first game. Additionally, Dr. Heyer is a member of the Pulmonary and Critical Care Division at Carolinas Medical Center.



# HONORING OUR HISTORY: A LIFELONG COMMITMENT TO FORMER PLAYERS

They paved the way. They set the example. They helped to make our game great. While no longer in uniform, former NFL players will always be an integral part of the NFL family.

The league's commitment to health extends through a player's lifetime — from his first day on the field until long after he's left the game. Guided by the experts we convene and initiatives throughout the league, we continue to expand resources and services designed to help our alumni enjoy healthier, more fulfilling lives beyond football.

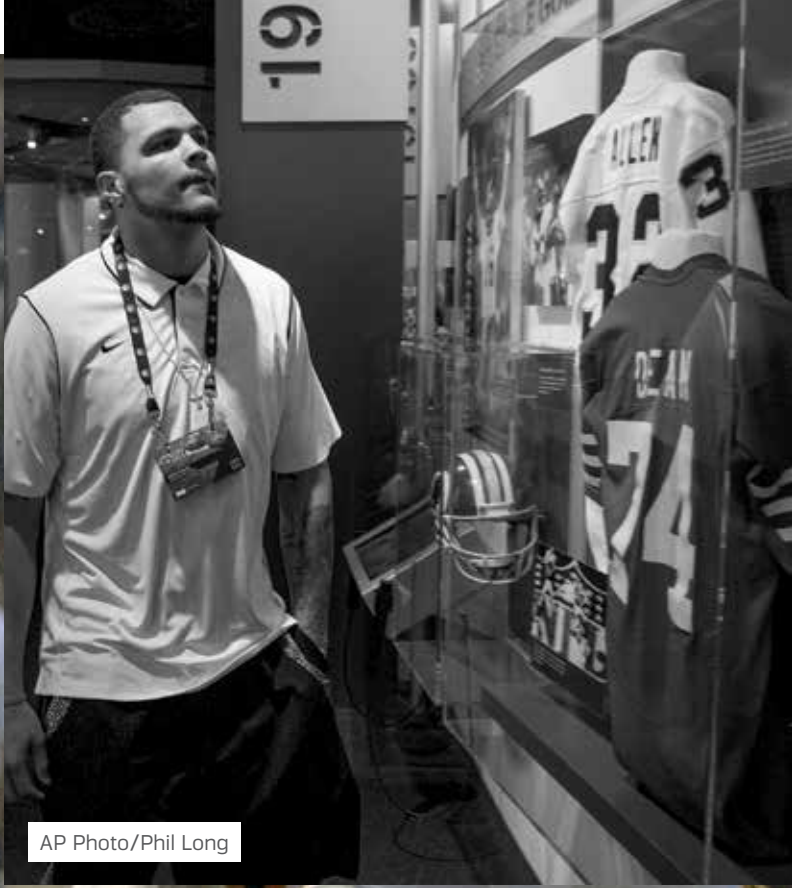




Associated Press

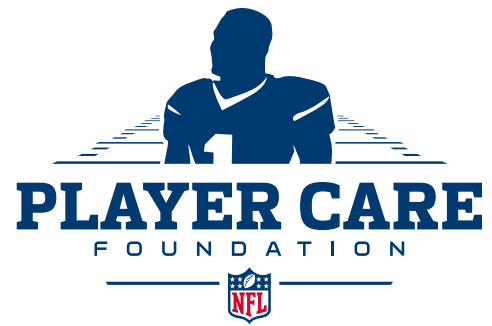


1983



AP Photo/Phil Long

# SCREENING EVENTS BOOST HEALTH AND SAVE LIVES



Ten times each year, comprehensive health screenings give all former NFL players insights into their health — including information that could save their lives.

Since 2007, 3,599 former players have benefited from the Healthy Body and Mind Screening program, a complimentary initiative offered by the NFL Player Care Foundation (PCF) in partnership with the NFL Alumni Association and Tulane University School of Medicine.

PCF conducts the Healthy Body and Mind Screening events throughout the year, with annual events scheduled around Super Bowl and Hall of Fame weekends. Open to all former NFL players, the events include a series of free cardiovascular and prostate screenings as well as mental health resources and education.

With consent from the participants, clinical information gathered from screenings is used in important research initiatives that could improve the lives of NFL retirees and many others.

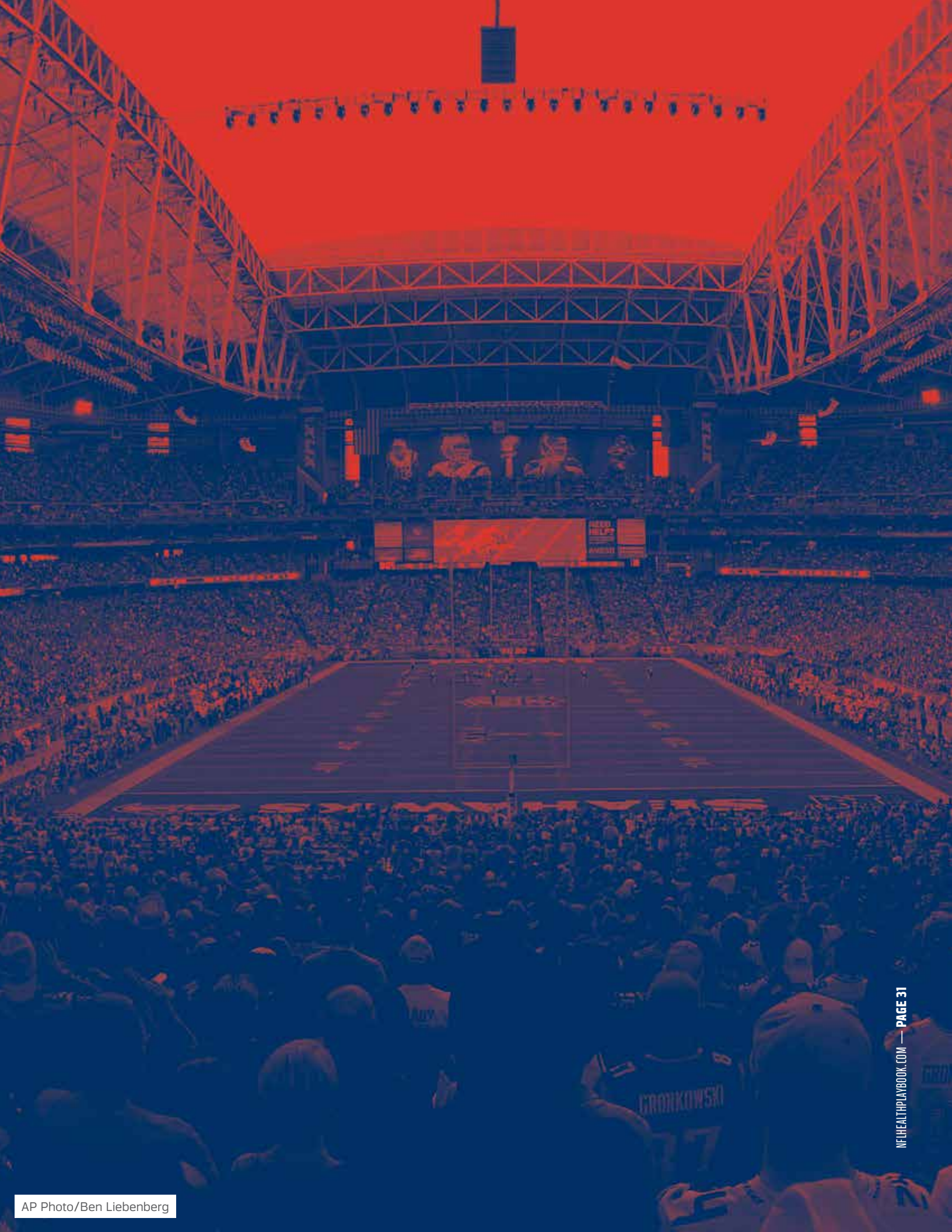
“The NFL Player Care Foundation addresses all aspects of life — medical, emotional, financial, social and community,” said Executive Director Belinda Lerner.

“We see the Healthy Body and Mind Screening program as an important part of our support role. It has saved lives of our former players by identifying life-threatening diseases and will continue to save lives by providing important research data.”

Services available through the Healthy Body and Mind Screening program include:

- ▶ Blood pressure and body measurements
- ▶ Cardiovascular medical histories
- ▶ Unique cardiovascular blood tests
- ▶ Echocardiography (echo) and electrocardiogram (EKG) screenings
- ▶ Sleep apnea risk assessments
- ▶ Prostate and sexual health assessments
- ▶ Mental health education and resources

THE NFL PLAYER CARE FOUNDATION (PCF) STARTED IN 2007 AS AN INDEPENDENT ORGANIZATION TO BETTER SERVE FORMER PLAYERS. DEDICATED TO ADDRESSING IMPORTANT HEALTH AND QUALITY-OF-LIFE CONCERNS AND IMPROVING OUTREACH TO FORMER PLAYERS, PCF IMPLEMENTS VARIOUS PROGRAMS AND PARTNERSHIPS TO CONNECT PLAYERS WITH CRITICAL RESOURCES.



AP Photo/Ben Liebenberg

# PROGRAMS GO LONG FOR WELLNESS

As part of the NFL's commitment to health and wellness throughout a player's life, the league supports former players with resources tailored to promote their long-term well-being. In addition to financial assistance, former players may be eligible for a range of programs, several of which are outlined below.

Added to the Former Player Life Improvement Plan in March 2010, the **NFL Neurological Care Program** has neurological specialists available at five medical centers to evaluate and treat possible neurological conditions among retired players. The program assists players with coordinated care at excellent healthcare facilities nationwide, including Mt. Sinai Medical Center, Washington University School of Medicine/Barnes-Jewish Hospital, University of California-San Francisco School of Medicine, Tulane University and University of California, Los Angeles Health Systems. Each center has a team of specialists available to retired NFL players, led by a neurologist who serves as a program director. For former players covered by the NFL Player Insurance Plan, the cost of evaluation and any subsequent treatment is covered at 100 percent. Eligible players who cannot afford treatment may apply to the NFL Player Care Foundation for a grant to cover some or all of the costs of treatment.

The **NFL Joint Replacement Program** provides medical and financial resources to former players who are uninsured or lack the financing to have joint replacement surgery. If a player is covered by insurance, the program provides up to \$5,250 for health care items or services directly related to the procedure, such as co-pays, provided the expense was incurred within one year of the surgery. Since the benefit's October 2007 inception, 532 applications have been approved, totaling \$1,264,132 for 436 surgeries.

Players 50 years old or older are eligible to receive **Long Term Care Insurance** at no cost to them if they meet the underwriting requirements of the insurance provider and are approved. This coverage provides financial support for players if they require long-term medical assistance at home, in the community, in assisted living or in nursing homes. Dating back to its June 2011 inception, 1,648 current

policies are in place totaling \$4,500,797 paid in premiums entirely by NFL clubs.

In 2012, the NFL provided a grant to establish the **NFL Life Line** for members of the NFL family — current and former NFL players, coaches, team and league staff and their family members — who may be in crisis. The NFL Life Line is a free, confidential and independently operated resource that connects callers with trained counselors who can help individuals work through any personal or emotional crisis. This service is available 24 hours a day, seven days a week, 365 days a year. To be connected with a counselor, individuals can simply call 1-800-506-0078 or chat online.

Launched in October 2013, the **NFL Health Care Information Hotline** connects former NFL players with trained specialists familiar with both NFL resources and the Affordable Care Act. Customer Service Advocates work to help players understand



insurance options and benefits they may be eligible to receive. As of March 2015, the Hotline received 1,109 calls in the three months of open enrollment, which is in line with last year's open enrollment period when 2,039 calls were received. Of the 1,109 calls, advocates spoke to 741 unique players and family members. Popular topics discussed included: Health Care Reform (46 percent), Former Player Life Improvement Plan (25 percent), Health Reimbursement Account (15 percent) and Player Insurance Plan and COBRA (12 percent).

**DID YOU KNOW? ACCORDING TO A STUDY BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH), NFL PLAYERS LIVE LONGER THAN THE AVERAGE U.S. MAN, WITH LOWER RATES OF CANCER AND HEART DISEASE.**

AP Photo/Aaron M. Sprecher

## HIGHLIGHT REEL

### UNWAVERING COMMITMENT: THE NATIONAL FOOTBALL LEAGUE PLAYERS ASSOCIATION (NFLPA)

The NFLPA supports the well-being of former NFL players over the long-term through outreach and research initiatives, including:

#### The Trust

The Trust helps players make a successful transition from professional football by offering counseling across a range of issues: health, education, careers, finances and lifestyle. [www.playerstrust.com](http://www.playerstrust.com)

#### The Football Players Health Study at Harvard University

This vital independent study seeks to learn about the health of the “whole player” over his entire life — before, during and after a football career — and the factors that may affect his health and wellness. [www.footballplayershealth.harvard.edu](http://www.footballplayershealth.harvard.edu)



**NFLPA**

# STARTING STRONG: TEACHING YOUTH THE RIGHT WAY TO PLAY

True leadership in health and safety requires making a difference far beyond the NFL, professional players and the game of football. It requires applying our resources, expertise and what we're learning to all sports, at all ages.

Understanding that safety practices must take root at the earliest stages, this year the NFL and its partners aggressively expanded health and safety education to more coaches, players and parents. Award-winning advocacy drew attention to proper playing techniques, safe tackling, fair play and good sportsmanship. Meanwhile, more NFL clubs helped local youth sports leagues in underserved communities benefit from athletic trainers and taught a greater number of parents about sports safety.





AP Photo/Paul Spinelli



# THE NFL FOUNDATION: SUPPORT WITH SAFETY AT ITS CORE

Keeping children safe and healthy takes teamwork. The NFL Foundation — the league's non-profit organization dedicated to improving the health, safety and wellness in athletes, youth football and communities that support our game — is proud to do its part.

The NFL Foundation supports a significant portfolio of programs to advance this mission. Whether promoting new standards in youth and high school football, funding athletic trainers on more school sidelines or supporting grassroots programs that empower parents and advance safety for all young athletes, the NFL Foundation takes a comprehensive approach to expanding the league's commitment to health and safety beyond professional football.

## ACTIVE IN YOUTH FITNESS

To keep kids healthy and help them get moving for at least 60 minutes every day, the NFL Foundation provides grants to its 32 clubs through NFL PLAY 60 activities in their local communities.

Since 2006, the NFL Foundation has worked with the American Heart Association and provided more than \$8 million to promote the NFL PLAY 60 Challenge, which remains the core, in-school, NFL club-activated component of the NFL PLAY 60 initiative.

The NFL Foundation also continues its grant support of The Cooper Institute's FITNESSGRAM tool, the most widely used physical fitness assessment, education and reporting tool in the world. The Foundation has funded a longitudinal study in 1,100 schools in the 32 NFL markets for the past six years.

## MORE THAN \$49 MILLION

IN GRANTS AWARDED  
IN THE PAST 17 YEARS,  
REVITALIZING 435  
PLAYING FIELDS ACROSS  
THE COUNTRY

## \$2.5 MILLION

FOR 2014 FIELD  
IMPROVEMENTS IN 15 CITIES

## \$1 MILLION

FOR ATHLETIC TRAINERS  
IN UNDERSERVED  
SCHOOLS LOCATED IN  
16 NFL MARKETS

## \$750,000

FOR 252 FREE YOUTH  
FOOTBALL CAMPS HOSTED  
BY CURRENT AND FORMER  
NFL PLAYERS AND COACHES

### HIGHLIGHT REEL

#### RECOGNITION AS A SAFETY AMBASSADOR

In March 2015, the National Athletic Trainers' Association (NATA) named the NFL Foundation one of its three Youth Sports Safety Ambassadors. NATA recognized the Foundation's work supporting the Heads Up Football program and the athletic trainer grant program for underserved schools.

# TAKING THE LEAD: ABOUT CHARLOTTE JONES ANDERSON

**CHAIRWOMAN, NFL FOUNDATION  
EXECUTIVE VICE PRESIDENT, DALLAS COWBOYS**

As Chairwoman of the NFL Foundation, Charlotte Jones Anderson is an influential leader in youth health and safety.



“The future of our game lies in the kids in the youth leagues, ensuring they are playing the game as safely as possible,” Anderson said. “We have a tremendous opportunity to act as a catalyst for raising awareness of the importance of safety.”

Anderson has played a pivotal role in the NFL Foundation in:

- ▶ Supporting the work of USA Football and Heads Up Football, to educate coaches, players, parents and programs nationwide about safe practices in all levels of football
- ▶ Funding safety-focused programs in schools, including the presence of certified athletic trainers
- ▶ Supporting healthy and active lifestyles through partnerships with organizations like the American Heart Association

**“THE NFL FOUNDATION IS PROUD TO SUPPORT THE IMPORTANT WORK THAT WILL HELP KEEP ATHLETES OF ALL LEVELS SAFER AS THEY PLAY THE SPORTS THEY LOVE. WE ARE PLEASED TO WORK WITH A DIVERSE GROUP OF LEADERS IN THEIR RESPECTIVE FIELDS TO HELP ADVANCE THE IMPORTANT CAUSE OF SPORTS SAFETY.”**

**Charlotte Jones Anderson**, Dallas Cowboys Executive Vice President and Chairwoman of the NFL Foundation, [NFLcommunications.com](http://NFLcommunications.com), May 29, 2014



# HEADS UP FOOTBALL: EXPANSIVE REACH, IMPRESSIVE RESULTS



From Seattle to Atlanta and even as far away as Camp Humphries in South Korea, health and safety fundamentals are taking center stage for the game's youngest players, thanks to USA Football's Heads Up Football (HUF) program. A comprehensive way to play and teach the sport better, Heads Up Football promotes proper techniques and positive coaching while bringing clarity to an evolving, often complex landscape.

## STANDARDIZING COACH CERTIFICATION

Coaches learn approved health protocols for concussion signs and symptoms, as well as heat exposure, proper hydration and how to teach tackling and blocking techniques that aim to reduce helmet contact. The program's certification for coaches is becoming a norm nationwide. In the Northern California Youth Football and Cheer organization, for instance, all coaches are required to be USA Football-certified. The same is true of the Washington Junior Football League in Missouri.

"Heads Up Football gives us the curriculum we need to make sure everyone in our community knows the safety of their children is our number one priority," League President Mike Newbanks told [usafootball.com](http://usafootball.com) on March 18, 2015.

## EXPANDING REACH AND INFLUENCE

Effective programs grow quickly. Heads Up Football is no exception. Currently, more than 6,300 youth leagues and more than 1,000 high schools are registered for Heads Up Football, representing more than 1 million players.

High School Heads Up Football has earned the endorsement of the National Federation of State High School Associations, eight state high school associations and leading organizations spanning medicine and sport. The Oregon School Activities Association (OSAA) became the first state high school activities association in the United States to require coaches to complete Heads Up Football training, effective in 2016.

**"THE SAFETY AND WELL-BEING OF OUR ATHLETES IS PRIORITY NUMBER ONE. WE ARE ALWAYS LOOKING TO IMPROVE SAFETY."**

**Mike McCulloch**, President, Ukiah Lions, a new Heads Up program participant in Northern California, [NFLEvolution.com](http://NFLEvolution.com), March 18, 2015

## SEEING RESULTS IN ACTION

Coaching education and guidelines included in programs like Heads Up Football can have a tremendous impact on injury rates, according to a study published July 2015, in the *Orthopaedic Journal of Sports Medicine*.

The Datalys Center for Sports Injury Research and Prevention conducted a study in 2014 comparing injury data from leagues that have adopted Heads Up Football with those leagues that have not. Results from this study were released in February 2015.

Leagues that adopted Heads Up Football had a 76 percent reduction in injuries and a 34 percent reduction in concussions compared to non-Heads Up Football leagues.

This impressive statistic included a 34 percent reduction in concussions in practices and a 29

percent reduction in concussions during games. Improved techniques, certified coaches and health awareness all lead to a significantly safer youth game.

### ALWAYS EXPANDING THE PLAYBOOK

When it comes to youth safety, USA Football isn't standing still. During the past year, the program made two new additions to its curriculum: training on Heads Up Blocking and protocols for sudden cardiac arrest, both approved by USA Football's medical and football advisory committees.

The Heads Up Blocking technique guides coaches in teaching proper engagement with a defender, driving with the legs and maintaining correct body position for safer and more effective play.

### USA FOOTBALL FINDS STRENGTH IN NUMBERS

The second annual USA Football National Conference in February 2015 convened nearly 600 youth and high school football leaders in Indianapolis.

The largest event of its kind, the conference focused on youth and high school player safety, education and injury prevention. Coaches learned from football leaders like Tony Dungy and Bill Polian about how to become better coaches, football administrators and positive influencers on the lives of the children they coach. They also heard from some of the world's leading sports medicine experts in sudden cardiac arrest, injury epidemiology and concussion.

### EQUIPPED FOR SAFE PLAY

Safer equipment is essential for safer play, and the league continues to ensure young players have the equipment they need. Building on a collaboration with the Consumer Product Safety Commission (CPSC), the NFL Foundation continues to address the need of youth and high school leagues for new or refurbished equipment. In April 2015, the NFL committed \$2 million to support USA Football's equipment grant program, which helps youth programs obtain new or refurbished helmets and other equipment to advance player safety. The grants are distributed based on need and merit.

**“THANKS TO USA FOOTBALL, THE NFL AND THE NFL FOUNDATION, THE EQUIPMENT GRANT PROGRAM AND MUCH-NEEDED CULTURE CHANGE TO IMPROVE THE HEALTH AND SAFETY OF YOUTH FOOTBALL PLAYERS IS WELL UNDER WAY...THE NFL'S SUPPORT OF HEADS UP FOOTBALL HAS BEEN A KEY TURNING POINT IN THIS EFFORT AND HAS DRAMATICALLY EXPANDED THE NUMBER OF YOUTH PROGRAMS NATIONWIDE THAT ARE TEACHING AND PLAYING THE GAME IN A WAY THAT PUTS PLAYER SAFETY FIRST AND FOREMOST. I APPLAUD THE NFL FOR ITS COMMITMENT AND LOOK FORWARD TO AN EVEN GREATER INVESTMENT BY THE LEAGUE INTO EFFECTIVE WAYS TO ACCELERATE YOUTH SAFETY CULTURE CHANGE. ULTIMATELY, AS IN FOOTBALL, IT WILL TAKE A TRUE TEAM EFFORT BY ALL OF US — INCLUDING PARENTS, COACHES AND PLAYERS — TO CREATE A SAFER AND SMARTER GAME THAT INVOLVES FEWER HITS TO THE HEAD AND FAR LESS TRAUMA TO THE BRAIN.”**

Elliot F. Kaye, Chairman, U.S. Consumer Product Safety Commission

### HUF AREAS OF FOCUS:



**Coaching Certification:** HUF maintains the sport's only nationally accredited courses with content created from football experts and health professionals.



**Concussion Awareness:** HUF has partnered with organizations such as the CDC to develop resources to help coaches and parents become educated on what to look for on the field and to encourage attention to concussion symptoms.



**Equipment Fitting:** HUF teaches coaches, players and parents how to properly fit helmets and shoulder pads for higher levels of safety. Improperly fitted equipment can place an athlete at greater risk of injury.



**Heads Up Tackling and Blocking:** HUF employs two five-step series that teach the fundamentals to address proper tackling and blocking technique with a focus on reducing helmet contact.



**Player Safety Coach:** HUF trains Player Safety Coaches to ensure compliance with core HUF health and safety protocols, including coaching certification and conducting safety clinics for coaches, parents and players.



**Heat & Hydration:** HUF deploys targeted education for coaches and parents to increase prevention, recognition and basic treatment of athletes for heat-related illnesses.



**Sudden Cardiac Arrest:** HUF has recently included sudden cardiac arrest protocols as part of the program. Sudden cardiac arrest is the leading cause of young athlete fatalities during exercise across all sports.

# MOMS CLINICS: PUTTING PARENTS IN YOUNG PLAYERS' SHOES



Moms Clinics — with nearly 10,000 enthusiastic attendees since 2013 — are getting moms on the field and into the action.

Hosted by NFL clubs and supported by USA Football, these free, two-hour programs help mothers understand what their children experience during practices and games. They follow an educational curriculum including:

- ▶ On-field demonstrations and tackling drills with USA Football Master Trainers
- ▶ Practical advice on diet, hydration, equipment fitting and concussion recognition and response
- ▶ The opportunity to ask questions and voice concerns to current and retired players, coaches and health and medical professionals

**“YOU’VE GOT TO LOOK THAT PARENT IN THE EYE AND DEMONSTRATE THROUGH ACTIONS, NOT WORDS, THAT YOU ARE DOING THINGS TO CREATE A BETTER, SAFER ENVIRONMENT FOR THEIR CHILD.”**

**Scott Hallenbeck**, CEO and Executive Director, USA Football, *The New York Times*, January 29, 2015

**“IT’S IMPORTANT FOR THE NFL TO BE A LEADER AND A TEMPLATE FOR ALL YOUTH SPORTS.”**

**Chris Golic**, Moms Clinic leader

## LEADING THE WAY

“We want moms to see our commitment is real,” said Chris Golic, the wife of former NFL defensive lineman and ESPN host Mike Golic, parent of three student-athletes and a Heads Up Football Advisory Committee member.

Golic is a regular at Moms Clinics as a leader and a participant. And she’s seen positive changes since the program began in 2012.

“I think it’s definitely making a difference,” she said. “It gives them a chance to ask questions and to experience what their kids go through. We want to help moms make decisions. And they’re starting to trust us as a group that puts safety at the forefront.”



AP Photo/Kike Calvo

*Chris Golic, Moms Clinic Leader*



# MEET THE NFL'S DIRECTOR OF YOUTH AND HIGH SCHOOL FOOTBALL (ALSO KNOWN AS DAD)

With a 12-year career as an offensive tackle under his belt, a Super Bowl ring and a reputation for player advocacy, Roman Oben brings serious credibility to his role as the NFL's Director of Youth Football, a position he took on in January 2015. He also knows how youth football works. After retiring from the NFL in 2008, he held several leadership positions and launched the Oben Flag Football program, which helps communities bring football skills into their recreation programs.

But what may inform his leadership most is his role as a parent of two school-age sons — both of whom play tackle football.

## AN ADVOCATE FOR SAFETY EDUCATION

Roman brings a rich perspective and an understanding of what it means to do “the right things.” Since he was drafted by the New York Giants in 1996 as a third-round pick, Oben has seen the game evolve — rule changes, practice guidelines, medical knowledge and training and education for coaches, as well as for the young players themselves.

“By the time kids get to high school, you want them to have the proper fundamentals, and you want the high school coaches to inherit a generation of kids that have the proper base of fundamental football knowledge,” he said.

It's also about making sure parents know the landscape as well. “When the language is standardized and the approach is transparent and everyone knows, then you make better decisions,” Oben said. “We have gotten smarter to start that discussion earlier. And then that creates a safer player, a more educated parent and a better game overall.”

## AN AMBASSADOR FOR FOOTBALL, SAFETY AND PHYSICAL ACTIVITY

Youth participation in almost all sports has dropped for many different reasons, Oben said, including the sedentary nature of life today, more options for activities and safety concerns. His new role gives his efforts a national platform to address barriers to involvement and encourage parents and youth to experience the benefits of the sport.

**“I BELIEVE IN THE FOOTBALL VALUES. I BELIEVE IN WHAT YOU CAN LEARN IN THIS GAME.”**

Roman Oben, NFL Director of Youth Football



# NFL FLAG POWERED BY USA FOOTBALL: ESSENTIALS OF HEALTHY PLAY



In April 2015, the NFL announced the expansion of the NFL FLAG Essentials program to reach 2,500 schools, serving 1 million students nationwide.

NFL FLAG Essentials — established in 2014 through a partnership between the NFL, USA Football, GENYOUth and Fuel Up to Play 60 — provides elementary schools with flag football kits. These packages of footballs, flag belts, posters and educational materials for physical education teachers encourage kids to be physically active and learn to enjoy playing a great team sport.

Included in the national expansion to 2,500 schools, the program has focused distribution in 10 cities: Atlanta, Boston, Buffalo, Chicago, Jacksonville, Miami, Minneapolis, Phoenix, Pittsburgh and San Francisco. For many students, this is their first opportunity to play football. In each of these cities, physical education teachers receive in-person training led by USA Football with a curriculum developed by the Society of Health and Physical Educators.

NFL FLAG, powered by USA Football, builds on the broader goal of the NFL and Fuel Up to Play 60 to encourage kids to

be physically active and lead a healthy lifestyle.

## PUTTING NFL FLAG AT CENTER STAGE

At Super Bowl XLIX in Phoenix, the top 32 NFL FLAG teams from across the country had the chance to show off their skills at the NFL FLAG National Championships.

Players and coaches also participated in the NFL Pro Bowl pre-game and halftime shows and in Super Bowl Media Day. In 2016, the NFL FLAG National Championships will once again be held at Super Bowl 50 in San Francisco.





## HIGHLIGHT REEL

### NFL FLAG FAST FACTS

NFL FLAG is a great entry point to the sport

Every player has the chance to touch the ball and play offense

Costs are lower because there are no helmets or pads to buy

NFL FLAG teaches teamwork, strategy, sportsmanship and fundamental football skills

NFL FLAG Essentials provides schools free flag football equipment, curriculum and training

# HELPING UNDERSERVED COMMUNITIES PLAY IT SAFE

Lower injury rates, fewer recurring injuries, improved diagnosis and return-to-play decisions for concussion and other injuries — these are just a few of the significant benefits certified athletic trainers (ATs) contribute to the health of student athletes, according to a study from the American Academy of Pediatrics.

However, financial realities mean that many high school athletes do not have access to an AT. According to the “AT Benchmark Study” released by the National Athletic Trainers’ Association (NATA) and the Korey Stringer Institute (KSI), nearly two thirds of high schools do not have a full-time AT and nearly 30 percent do not have any access to an AT.

In 2013, the Chicago Bears spearheaded a focus on access to athletic trainers when they established an initiative to provide an AT at every Chicago Public High School football game. In 2014, 15 other NFL teams joined the Bears’ efforts through a new NFL Foundation grant program in their own communities.

For 2015, not only is the NFL Foundation increasing its commitment to ATs, the program will get a major boost from a new partner: Gatorade is joining the NFL Foundation, NATA and the Professional Football Athletic

Trainers Society (PFATS) to expand the reach of the program.

“We are pleased that Gatorade is joining NATA, PFATS and NFL teams as we continue to improve youth athlete safety across all sports for boys and girls by making athletic trainers available across the country,” said Dallas Cowboys Executive Vice President and Chairwoman of the NFL Foundation Charlotte Jones Anderson.

“We believe this program is an important step forward toward the ultimate goal of having a full-time athletic trainer in every high school in the country, and we couldn’t be more excited to support the NFL and NATA’s efforts,” said Jeff Kearney, Senior Director, Gatorade Sports Marketing.



**NEARLY TWO THIRDS** OF HIGH SCHOOLS DO NOT HAVE A FULL-TIME ATHLETIC TRAINER

**ALMOST THIRTY PERCENT** DO NOT HAVE ANY ACCESS TO AN ATHLETIC TRAINER

**NFL FOUNDATION ATHLETIC TRAINER GRANT PROGRAM IN 2014**

**\$1M**  
COMMITTED

**16**  
NFL CLUBS DEVELOPED PROGRAMS

**160,000**  
AIMING TO IMPACT NEARLY 160,000 YOUTH

**600+**  
SCHOOLS

HIGH SCHOOLS WITH CERTIFIED ATHLETIC TRAINERS HAVE

**LOWER OVERALL INJURY RATES**

ACCORDING TO A STUDY PRESENTED IN 2012 AT THE AMERICAN ACADEMY OF PEDIATRICS (AAP) NATIONAL CONFERENCE AND EXHIBITION

**HIGHLIGHT REEL**

SHAPING A CULTURE OF SAFETY IN MINNESOTA

Vikings head athletic trainer Eric Sugarman and athletic trainers from the Twin Cities' TRIA Orthopedic Center signed up for the AT Grant program, then got to work. The mission was to ensure that every high school football program in the 13 Minneapolis/St. Paul area public high schools was covered and that injured players would get the treatment they needed. As a result of this initiative, nearly 600 football players received attention from certified athletic trainers.

**DID YOU KNOW?** IN 2014, AT THE HEALTHY KIDS AND SAFE SPORTS CONCUSSION SUMMIT AT THE WHITE HOUSE, PRESIDENT OBAMA ANNOUNCED THE NFL FOUNDATION'S \$25 MILLION COMMITMENT TO SUPPORT HEALTH AND SAFETY PROJECTS OVER A THREE-YEAR PERIOD.

# NEW LAWS, NEW AWARENESS

After four years and an intense advocacy campaign, the NFL and its many allies succeeded in their mission of getting a youth concussion law passed in all 50 states. By 2014, all 50 states had enacted “return to play” laws modeled after the Lystedt Law, named for the young football player who inspired the original Washington State youth concussion law.

The state laws include the three key components found in the original Lystedt Law:

- ▶ Athletes, parents and coaches must be educated about the dangers of concussions each year
- ▶ If a young athlete is suspected of having a concussion, he or she must be removed from a game or practice and not be permitted to return to play — when in doubt, sit them out
- ▶ A licensed healthcare professional must clear the young athlete before he or she can return to play in the subsequent days or weeks

According to researchers at the University of Washington, these regulations — and the heightened local and national media attention leading up to their passage — are having an effect:

States with these laws experienced a 92 percent increase in concussion-related treatment from 2008–2009 and 2011–2012, compared with only a 75 percent

increase in states without these laws, according to the study, which was published in *JAMA Pediatrics* in December 2014.

“Increased healthcare utilization rates among children with

**“WE WILL CONTINUE TO FOCUS ON MAKING OUR GAME BETTER AND SAFER AND SETTING THE RIGHT EXAMPLE ON HEALTH AND SAFETY IN SPORTS.”**

**Commissioner Roger Goodell**, accepting the 2014 BIAWA Leadership Award on behalf of the NFL

concussion in the United States are both directly and indirectly related to concussion legislation,” researchers concluded in their report.



Nate Gowdy Photography

NFL Commissioner Roger Goodell, Victor Lystedt, Zackery Lystedt and Richard Adler at the eighth annual benefit auction for the Brain Injury Alliance of Washington (BIAWA), where Commissioner Goodell accepted the 2014 BIAWA Leadership Award on behalf of the NFL.

# BACK TO SPORTS: INCREASING PARTICIPATION WITH EDUCATION

The NFL and the American Heart Association (AHA) are teaming up to help keep kids safe, healthy and having fun while playing the sports they love.

The Back to Sports program empowers athletic trainers to provide parents of students who participate or are considering participation in sports with consistent, clear information about sports safety.

During educational sessions, families learn about the benefits of sports participation and ways young athletes can stay safe while being active. Athletic trainers educate parents on

specific sports safety issues like concussion, heat, hydration, nutrition, cardiac arrest and proper response and preventing pediatric overuse injuries.

This year, 100 grant-funded athletic trainers will receive all the necessary resources and support to host Back to Sports meetings. These include an honorarium for the athletic trainer, a CPR in Schools Training Kit, the Back to Sports Toolkit and technical

support from AHA to help new and experienced athletic trainers deliver the program.

Along with the NFL and AHA, strategic alliance experts such as the U.S. Centers for Disease Control and Prevention, Korey Stringer Institute (KSI) and National Athletic Trainers' Association (NATA) helped develop the program content, which incorporates the most relevant evidence-based science to date.



## PARTNERSHIPS TO PROMOTE EDUCATION



In July 2015, the NFL Foundation announced a new educational partnership with the American Academy of Family Physicians (AAFP). This initiative will aim to provide informational materials about concussions to family physicians, their patients and the public. These materials will focus on four key areas: safety, return-to-play protocols, concussion recognition and concussion evaluation.

By ensuring more physicians have the most current information, more youth will receive the best care possible, and more parents will be better informed about this injury.

**DID YOU KNOW? IN THE 2013-2014 SCHOOL YEAR, THE NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS REPORTED ITS FIRST RISE IN TACKLE FOOTBALL PARTICIPATION IN FIVE YEARS. FOOTBALL IS THE NUMBER ONE SPORT OF HIGH SCHOOL BOYS, WITH MORE THAN 1.2 MILLION PARTICIPANTS. MORE BOYS PLAY HIGH SCHOOL FOOTBALL THAN THE SECOND- AND THIRD-MOST POPULAR BOYS SPORTS COMBINED.**

# NFL, KOREY STRINGER INSTITUTE CONVENE LEADERS TO SHARE STRATEGIES

In March 2015, the Korey Stringer Institute (KSI) at the University of Connecticut convened leaders at the NFL's New York headquarters. The first Collaborative Solutions for Safety in Sport meeting was hosted in conjunction with KSI, the National Athletic Trainers' Association (NATA) and the American Medical Society for Sports Medicine (AMSSM). For the first time, representatives from the high school athletic associations and the sports medicine advisory committees from all 50 states came together to discuss critical issues for youth athlete safety, including:

- ▶ Best practices for heat-related illnesses and cardiac events
  - ▶ The necessity of readily available automated external defibrillators (AEDs) checked monthly for battery life
  - ▶ The importance of having and practicing emergency action plans
  - ▶ Strengthening medical coverage for student-athletes
  - ▶ Concussion signs and symptoms education
- forward faster to encourage a more integrated, organized approach to improve health and safety standards that influence our secondary school athletes," said Dr. Douglas Casa, Chief Operating Officer of KSI. NATA's landmark position statement on preventing sudden death in high school athletics, which KSI helped craft, has been endorsed by 16 organizations, including AMSSM and the National Federation of State High School Associations.

The working group's activities build upon an effort by KSI "to move health and safety policy changes

**"ADOPTING THESE MEASURES AND PUTTING THEM INTO PRACTICE WILL POTENTIALLY HELP SAVE LIVES AND REDUCE INJURY."**

**Jim Thornton**, Immediate Past President, NATA, Collaborative Solutions for Safety in Sport meeting, March 27, 2015



**"THESE KINDS OF INITIATIVES HAVE THE POTENTIAL TO BE GAME CHANGERS IN THE REALM OF ENHANCING HEALTH AND SAFETY OF ATHLETES AT ALL LEVELS..."**

**Dr. Douglas Casa**, COO, KSI

- ▶ Only 14 states meet minimum best practices for protecting athletes from heat stroke
- ▶ Only half have AEDs at school-sponsored athletic events

KSI also organized the first Youth Sport Safety Governing Bodies meeting in January 2015 at NFL Headquarters. During this unprecedented two-day event, leaders from the top youth sport national governing bodies came together to discuss policies and considerations for making youth sports safer. Areas of emphasis included heat illness, concussion, cardiac conditions and emergency action planning. Representatives from nine different sports attended, including tennis, soccer, lacrosse, hockey, baseball, wrestling and track and field.





FOR MORE INFORMATION  
ABOUT THE NFL'S  
HEALTH AND SAFETY  
EFFORTS, PLEASE VISIT  
[NFLHEALTHPLAYBOOK.COM](http://NFLHEALTHPLAYBOOK.COM).





