WE’VE COME A LONG WAY...

BUT WE’RE JUST GETTING STARTED.

2013 PLAYER HEALTH & SAFETY REPORT
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Sports are an authentic part of American life and a cornerstone of many childhood experiences. Some of my fondest memories are of playing football and other sports as a child. Like many involved in sports growing up, I’ve carried the lessons of self-discipline, perseverance and teamwork with me and applied them to my life.

Today, as we consider the value of sports in society, and particularly in the lives of young people, safety must be a central part of the conversation. The more we learn about the impact of sports on health, the more we learn how to balance protection with enjoyment of the game.

We know that with virtually any sport there is the possibility of injury. The key question is: what can we all do to make the sports we play as safe as possible? This question is at the heart of an ongoing national dialogue about youth sports safety. It requires parents, coaches, educators, health professionals and sports professionals to work together. The responsibility for safe play is one that we share.

Studies repeatedly find that the rewards for sports participation, especially in children, are significant – and that broader youth participation in physical activities such as sports would be even more beneficial. The CDC reports that 12.5 million children and teens in the United States are obese. With this in mind, the physical benefits of building strength and managing weight through sports take on a greater importance. Beyond the physical, sports participation also leads to increased self-esteem, confidence, better performance in school, and enhanced social skills. According to the Women’s Sports Foundation, girls who participate in sports are less likely to become pregnant or suffer from depression as teenagers, and are more likely to get better grades and to graduate from high school.

Football is a great game, America’s favorite sport with unique rewards to those who play it – whether at the youth level, in the backyard or neighborhood field, in college, or, for the very best, in the NFL. In order to assure that it remains valued and cherished, we need to constantly strive to make it better and safer. We know that our game is safer than it was five years ago. As our efforts, detailed in this report, continue and deepen, as changes in culture occur, we are confident the game will be even safer 10 years from now.

This is at the core of our mission at the NFL, and we are proud to be working with organizations across the country to help educate communities on safety and fitness as our children head back to the playing fields this fall.

This report helps tell the story of how, together, we are creating a better, safer game for all.

Roger Goodell
NFL Commissioner
All of us in the NFL have an important function as the stewards of our sport. This is a role we take very seriously.

Since the release of the NFL Health & Safety Fall 2012 report in October, I am proud to report that substantial progress continues to be made in developing a culture of safety for NFL players, and advances in support of the health and safety of football players and athletes are progressing at all levels. Through key partnerships, commitments to research and continued advocacy the NFL is working to help ensure a safer experience for its players, athletes in all sports and the general population.

Highlights of recent advances include:

Deepening Partnerships and Collaborations. Our committees of independent experts, collaborations with organizations such as the Centers for Disease Control and Prevention, and joint programs with organizations such as the U.S. Army drive important scientific research, provide resources for our players and their families, and inform the policies and rules of our game. We thank the individuals and organizations who have joined us in promoting the health and safety of our players and who have made a positive impact across all sports.

Expanding Research, Accelerating Progress. Building on the $30 million grant the NFL committed to the Foundation for the National Institutes of Health, and the millions in medical research funded through our non-profit foundation, the NFL partnered with GE to dedicate $60 million to advance research and technology in preventing, diagnosing and treating head injuries. Every day work continues on new technologies in player health and safety. This research will accelerate new innovations, speeding the pace at which new technologies reach the marketplace and enhancing existing technology.

We are relentless in our pursuit of advancing science. The NFL will continue to fund research with premier institutes and partner with innovators to accelerate scientific progress.

We continue to evolve, improve and make the game better by working towards making it safer. We are not done. We remain committed to providing the resources, tools and support players deserve, and to leading the way to a safer and healthier game for players at all levels and for athletes in all sports.

Our passion for the sport cannot and will not distract our focus on the total health of athletes. It drives us to make even greater strides in advancing a culture of safety.

John York, M.D.
Co-Chairman, San Francisco 49ers
Chairman, NFL Owners’ Committee on Health and Safety
ADVANCES IN CULTURE
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. An update on several programs enhancing the culture of health, safety and wellness in the NFL follows.

NFL players represent the pinnacle of physical fitness. However, more than physical fitness is necessary to ensure that players succeed, both on and off the field. The mission of NFL Player Engagement is to empower each player to reach his highest potential through guidance, support and resources for all phases and aspects of his career and personal life.

NFL Player Engagement programs are tailored for the period before, during and after a player’s NFL experience; PREP, LIFE and NEXT assist in transitioning players through the athletic life cycle.

Q&A with Troy Vincent, NFL Senior Vice President of Player Engagement

Where did the NFL Total Wellness concept come from?

As we look at the athlete’s life cycle and the evolution of the game, it is imperative that we approach the long-term wellness of the athlete holistically. The genesis of NFL Total Wellness was the need to foment cultural change emphasizing best practices in Family Safety, Lifestyle, Wellness and Transition.

What sets Total Wellness apart?

As part of our groundbreaking peer-to-peer counseling model under NFL Total Wellness, we have established the Transition Coach. NFL Transition Coaches are former NFL players who work at the club level to reach out to players, identify critical wellness needs and assist with possible solutions. They serve as peer counselors where one-on-one guidance is needed in areas such as: family, crisis, transition and career assistance, depression and finance.

This highly acclaimed Total Wellness initiative not only affords us the opportunity to assist our players, but also to engage in the national dialogue regarding mental health, domestic violence and general health and well-being.
**NFL PREP** provides high-school and college student athletes of all sports with tools to help them succeed in life. The program focuses on awareness, prevention and education in areas of player health and safety, on-field technique, off-field leadership, and academic and athletic experiences.

**NFL LIFE** provides current NFL players and their families with personal and professional development resources, while supporting and educating players’ families to take full advantage of the opportunities afforded them by their NFL experience. Resources include social responsibility, professional development, community engagement and life-skills workshops.

**NFL NEXT** challenges former players through management and entrepreneurial programs and career “boot camps,” which help former players to consider the next step in their lives and provide services and resources that foster a successful transition to life after football. These programs enhance their marketable employment skills and promote their search for post-NFL careers.

Participants in NFL PREP, LIFE and NEXT come together in the NFL Engagement Zone. The NFL Engagement Zone is a private social network, accessed by invitation only, created by NFL Player Engagement to provide a space for future, current and former NFL players and NFL Player Engagement staff to interact and share resources, ideas and feedback. The Engagement Zone features resources in the form of relevant articles, program information, calendar postings and career and professional development opportunities. Discussion boards enable members to interact with each other, and chat and webinar features allow NFL Player Engagement to provide continued, real-time educational opportunities to members.

Together, NFL PREP, LIFE and NEXT form the core of NFL Player Engagement, a 360° approach to the health and wellness of NFL players.
NFL Total Wellness (TW) is a comprehensive initiative that supports cultural change through an emphasis on family safety, lifestyle, wellness and transition. TW approaches the player with specific efforts to reduce various forms of stigma associated with behavioral health problems; measures to ensure better living through health and safety education; a strong social marketing campaign promoting cultural change; and development of life-skills critical for transition to “new normal conditions” of psychological, emotional, relational and spiritual fitness.

As a part of the TW program, and to provide the NFL family, including former players, NFL employees and their respective families, with a year-round support system that is needed once the fourth quarter ends, Q5 was created. Created for players and by players, Q5 assists the NFL family in achieving total wellness through four core pillars: Physical Strength, Emotional Strength, Personal Strength and Financial Strength.

Physical Strength

Physical strength means more than just how much a player can bench press or how fast he can run a 40-yard dash. Physical Strength ensures that NFL players and their family members have resources to successfully manage their physical health.

Through Q5 and the Player Engagement website (NFLPlayerEngagement.com), NFL players have access to information on health topics and important links to resources, including the USDA’s daily food plan and tracker, a men’s health quiz from the U.S. Department of Health and Human Services, a BMI calculator and more.

In December 2012, the newly formed NFL Foundation was announced following a restructuring of the NFL’s previous non-profit organizations, NFL Charities and the Youth Football Fund. Efforts of the non-profit Foundation are reflective of the culture and priorities of the NFL, with an emphasis on improving the health and safety of sports, youth football and the broader community. In 2013, the NFL Foundation will provide more than $18 million to support health and safety efforts, such as the Heads Up Football initiative, youth and high school football programs, and community health initiatives, including NFL PLAY 60.

“I will not go through my life scared and I don’t want my children to go through life scared. I started playing football when I was eight years old and I would never not want to give that opportunity to my children.”

— LaVar Arrington, former NFL player

“The game is safer than it has ever been because we’re being proactive with head trauma.”

— Merill Hoge, former NFL player
HGH Testing: Protecting Player Health & Safety

Human growth hormone (HGH) is a naturally occurring hormone that stimulates cellular growth and regeneration in humans and animals. However, synthetic HGH can provide athletes with an unfair competitive advantage, allowing users to recover from injury more quickly while also boosting athletic performance on the field. HGH is believed by many doctors to increase the risk of health problems in its users, including diabetes, joint problems and cardiovascular issues.

HGH is a banned substance in the NFL, and both the league and the NFL Players Association (NFLPA) agreed to start testing for it in the 2011 collective bargaining agreement. However, testing has not been implemented yet due to disagreement on key points.

It is critical to implement HGH testing in order to maintain the integrity of the game. Together, the NFL and NFLPA have the opportunity to send a powerful message to young athletes across the country that performance enhancing substances dishonor the culture of the game and can endanger the well-being of those who use them.

NFL Personal Health Care Team: Chronic Health Management

Chronic health conditions can affect anyone. To aid in the often challenging management of chronic conditions, the NFL provides a dedicated NFL Personal Health Care Team of specialists for players and their family members. Once contacted through the NFL player’s health plan hotline, a Personal Health Care Team specialist will serve as a “health coach,” working alongside the NFL player and his family to create a personal care plan, help to understand medication or doctor’s orders, identify health risks that affect his condition, aid in making educated decisions about treatment options, and explain what players should expect if hospital care is needed.

Personal assistance through this health coach is available for the following chronic conditions:

- Cardiovascular (e.g., acute myocardial infarction, angina, cardiovascular disease, congestive heart failure, coronary artery disease, peripheral arterial disease)
- Type I and Type II Diabetes
- Metabolic Syndrome
- Respiratory (e.g., asthma, COPD, emphysema, chronic bronchitis)
- Bone and Joint (e.g., osteoarthritis, lower back pain)
- Mental Health (e.g., anxiety, bipolar disorder, depression)

Close the Gap – Reversing Heart Disease Trends

NFL Total Wellness has teamed with Boston Scientific’s health equity program Close the Gap to increase awareness of heart disease, which remains the most frequent cause of death in Americans, including NFL players. Close the Gap provides educational tools and risk assessments about heart disease to improve heart health for NFL players and their families.

The NFL Healthy Babies Program

Programs that support the four pillars of Q5 and NFL Total Wellness are intended for all members of the NFL family, including those that are “on their way.” To provide NFL moms-to-be with assistance, the NFL created the NFL Healthy Babies Program. The program promotes good health for mothers and their babies, identifies and monitors high-risk pregnancies, and prevents premature births. NFL moms-to-be receive assistance that includes information on pregnancy and prenatal care, up to $600 for pregnancy-related expenses if they enroll within the first 14 weeks of pregnancy and specialty case management for high-risk pregnancies and neonatal care.

24-Hour Health Information Line

Because health issues can strike anytime and anywhere, NFL Total Wellness provides players and their families with a free 24-hour health information line staffed by registered nurses available to answer health-related questions and to provide referrals for services. Any member of the NFL family can call the NFL health plan line at 1-800-635-9671.

Emotional Strength

In order to support the emotional strength of NFL players and their families, the NFL provides resources through Q5 and the NFL Player Engagement website, with information from the Centers for Disease Control and Prevention (CDC), the National Institutes of Health and the Substance Abuse and Mental Health Services Administration. NFL Player Assistance and Counseling services has a wide range of resources for all members of the NFL family, including crisis counseling, up to eight face-to-face sessions with a counselor per issue per year, assistance in finding in-network counselors near the individual, and referrals to emotional health resources within their community.
NFL Life Line: A Resource for All Members of the NFL Family

A recently expanded offering from Q5 and NFL Total Wellness is NFL Life Line. In 2012, recognizing the impact of personal and emotional crisis, the NFL established NFL Life Line as a free, independent and confidential phone consultation service (1-800-506-0078) and website (NFLLifeLine.org). All members of the NFL family, including current and former players, coaches, league staff and their families 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 Life Line is independently managed by Link2Health Solutions, a national leader in administering broad-scale crisis support programs, including the National Suicide Prevention Lifeline and Veterans Crisis Line.

Since its launch, the NFL has expanded NFLLifeLine.org to include new resources such as:

- **Education:** Information on the signs and symptoms of emotional distress, assisting users in determining if they or a friend, teammate or family member would benefit from mental health support.

- **A Self-Check Quiz:** Designed by the National Suicide Prevention Lifeline, this anonymous and confidential “self-check” quiz enables the individual to determine if stress or depression might be affecting them or someone they know. Crisis counselors are on call to personally respond to the quiz-taker through the website or in person.

- **Live Online Chat:** This function allows individuals to immediately and confidentially interact with professionals that are specifically trained in personal and emotional crises. Users can link the results from their “self-check” quiz to the chat request, providing the crisis counselor with a more detailed profile of their specific needs.

- **NFL Player Videos:** Several former NFL players, including Michael Strahan, Brett Favre, Cris Carter and Michael Irvin, recorded call-to-action video messages that appear on the Life Line website encouraging fellow players to seek help and recognize that, as a member of the NFL family, they are not alone in addressing emotional issues.

AFSP Humanitarian Award Acceptance

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Personal Strength

Personal strength is more than following the rules, it’s about keeping things in perspective and staying focused on what really matters — like family, friends and the future.

The NFL provides its family a number of resources to build their Personal Strength. For players with families, resources are available to assist in searching for the best child care services, creating a family’s education plan, finding information on raising children, and providing assistance with adoption services. Q5 and the NFL Player Engagement website also provide resources on relationship management, including All Pro Dad (AllProDad.com), an innovative program available to NFL fathers that can assist them in their unique role in their family’s life.
Women's Resource Initiative

NFL Player Engagement’s Women’s Resource Initiative provides research, resources, tools and inspiration for women in the football community. The Women’s Resource Initiative was launched in May 2013 through NFL Player Engagement to connect women with their peers to share knowledge, experiences and opportunities in career, service, health and wellness, and lifestyle. Available on the Player Engagement website, the Women’s Resource Initiative also provides information specifically tailored to women’s health issues, including breast and gynecologic cancers.

Sharon Guillory-Reid, Eric Reid Jr.’s mother, spoke to NFLPE Women’s Resource Initiative at the 2013 Draft about her son’s transition into the NFL and the role she plays as the mother of an NFL player.

Financial Strength

Financial health is closely related to general wellness. NFL players and their families have financial services and tools through Q5’s pillar of Financial Strength, including:

- **24/7 Confidential Financial Support** through Money Management International, the largest non-profit, full-service credit counseling agency in the U.S. It can assist in addressing and preventing a variety of financial challenges.
- **Investment Fraud Avoidance and Financial Tools** through the Financial Industry Regulatory Authority (FINRA), a non-profit organization dedicated to investor education, tools and education are provided to NFL players to outsmart scam artists that may target them.
- **Financial, Legal and Identify Theft Services** through NFL Player Assistance and Counseling Services equips NFL players with critical information to enhance their financial decision making.

Financial strength comprises more than sound financial education and tools. It’s also about helping to provide former players with opportunities for rewarding employment after their NFL experiences end.

25 Years of Madden Football

Madden NFL games, named for legendary Hall of Fame coach John Madden, are a regular best seller, known for their realistic portrayal of professional football. Madden 25, released in August 2013, reflects the evolution of football and the dedication that John Madden has shown to improving player safety as co-chair of the NFL Player Safety Advisory Panel. The game includes a “Skills Trainer” to educate users about the game and open the door to educational modules on safer play, including heads-up tackling techniques.

“We have to look out for one another the way we did on the football field…we have to trust one another, we have to rely on one another, we have to share with one another, we can’t isolate.”

— Michael Irvin, Pro Football Hall of Fame member

“Has there been a culture change overall? I think the answer is, unquestionably, ‘yes.’ Could there be more done? Yes. Do all the players get it? No. Do they want to get it? No.”

— Robert Cantu, M.D., Co-Director of the Center for the Study of Traumatic Encephalopathy, Boston University School of Medicine
POST-CAREER HEALTH AND SAFETY PROGRAMS

Former NFL players are supported through numerous health and career programs offered by NFL Player Engagement and the NFL Player Care Foundation (PCF), an independent organization dedicated to helping retired players with medical, emotional, financial, social and community needs.

The mission of the PCF is to help former NFL players improve the quality of their lives by providing education and information that will benefit all, as well as to provide financial assistance to former NFL players who are distressed and disadvantaged.

PCF carries out its mission through an individualized case management process that connects each former player with a PCF representative who listens to the player’s concerns and provides a personalized, respectful and confidential care program for his needs.

PCF’s customized approach and extensive knowledge of NFL benefits, programs and partnerships enables the former player to address his varied needs through one contact who can help him navigate the numerous programs that may be available.

NFL Legends

The league has tapped 19 former players to serve as ambassadors for the newly announced NFL Legends program. The players, who will serve a three-year term, will work to make other former players aware of the various programs and services the NFL has to offer after playing careers are over.

Transition Assistance Programs

The NFL Transition Assistance Program (TAP) is designed to provide the tools and peer-to-peer support for a successful transition. TAP was designed by and is administered by and for former players with academic partners. NFL TAP educates players and their families about essential components of transition including physical, psychological and social changes as they prepare for life beyond football. This interactive, four-day program seeks to provide connections and resources that will last a lifetime.

“With [TAP], I was looking for inspiration. Once I got here, I found exactly what I wanted: I found a path.”
— Obafemi Ayanbadejo, former NFL player

“Football’s a great game. Obviously it’s a great game for NFL players, it’s how we make a living, but most kids who play football aren’t going to make it to the NFL. It’s such a great game because it teaches you about life and lessons and there’s so much to be gained by participating in football. It’s served us all well and just to continue to have this conversation and continue to talk about it and just do whatever we can to make it safer whether it be through rule change or research.”
— Matt Birk, former NFL player

“The league has done some great things — as best you can within a game of inherent dangers — in making the game as safe as possible.”
— Howie Long, Pro Football Hall of Fame member
Since June 2010, more than 250 NFL players have participated in TAP, engaging in comprehensive business-oriented lectures, case studies and personality evaluations to aid in their post-NFL career transitions. The program also features voluntary and free health screenings.

Financial Grants

Former players who meet eligibility requirements may receive financial grants to help them pay certain outstanding expenses, or the PCF can authorize grants to be paid directly to creditors. PCF has prevented foreclosures on homes, repossessions of cars and helped pay for physical and mental health services. To date, PCF has administered 468 grants totaling more than $4.8 million.

New Benefit Announced for Former Players

In December 2012, eligible former players were notified about a new, collectively bargained benefit that provides monthly financial support as well as reimbursement for up to $10,000 per year in out-of-pocket medical expenses for those with neuro-cognitive impairment. Details for qualifying are set forth in the NFL-NFLPA Collective Bargaining Agreement.

Healthy Body and Mind Cardiovascular and Prostate Health Research Awareness Program

Since 2008, more than 1,500 retired players have had free, state-of-the-art cardiovascular and prostate cancer screenings. Screening events are conducted in 10 cities annually, including at the Super Bowl and Hall of Fame events. These screenings include a mental health component through a partnership with the Morehouse School of Medicine, operated under the leadership of former Surgeon General Dr. David Satcher. Mental health professionals are available to meet with former players to discuss the challenges and demands of their off-the-field lives and provide them with advice and resources to better cope with life’s stresses.

Screening events feature:
- Cardiovascular health screenings, including EKGs, echocardiograms, coronary calcium scoring and carotid scans
- Prostate cancer testing
- Informational sessions about brain health, including the signs and symptoms of declining cognitive function, what to do if there are concerns, and where to get help
- Mental health forums offering retired players and their significant others opportunities to ask questions and meet privately with trained professionals
- Referrals to health care professionals
- Information about NFL-provided resources and services

“I wouldn’t be here today if it wasn’t for that screening. It doesn’t matter how healthy you are – knowing your risk factors, educating yourself about heart disease and getting regular screenings can save your life.”

— Dick Butkus, Pro Football Hall of Fame member
The NFL has a five-decade long history of supporting the armed forces. The league’s Salute to Service campaign unifies this work under one national initiative. A major part of Salute to Service is joint work between the NFL and the military on head injuries.

Between 2000 and 2012, more than 244,000 service members were diagnosed with a traumatic brain injury (TBI), while an additional 1.7 million people, including athletes of all ages in every sport, sustain a TBI every year in the United States. To address this public health issue, on August 29, 2012, the U.S. Army and the NFL announced a long-term initiative to enhance the health of soldiers and players through a focus on shared culture change, information exchange, education, and increased awareness of concussion-related issues that affect athletes, men and women in the armed forces, and the broader public.

This public-private partnership brings together the resources to research and develop the technology and equipment needed to better protect against brain injury, and provides an opportunity for the NFL and members of the armed forces to collaborate on changing their cultures to improve reporting of concussion symptoms.

The launch of the joint initiative was celebrated with new interactive websites at NFLEvolution.com/military and army.mil/tbi. Since the launch, the U.S. Army and the NFL have co-hosted forums that bring players and soldiers together at NFL team facilities and Army bases across the country to share learnings and experiences, to promote culture change in both organizations, and to discuss TBI and concussion awareness for athletes and service members. These events feature members of the armed forces, NFL team medical staff, and current and former players. For example, on May 14 the Carolina Panthers, in partnership with Lenovo and USO of North Carolina, held a culture change forum for nearly 100 Army and Air Force service members, Department of Defense civilians, and their families at Fort Bragg, N.C., one of the largest military bases in the world. The group discussed the cultural responses of the military and football to injury, specifically focusing on concussion awareness and diagnosis, return-to-play and return-to-action protocols, and other health topics. Prior to the forum, 225 local fifth grade students participated in an NFL PLAY 60 event with Panthers players and cheerleaders and Fort Bragg service members. Similar forums have been hosted by the Kansas City Chiefs, Cleveland Browns, Chicago Bears and Seattle Seahawks.

“You don’t want to let the rest of your team down, but you have to realize that because you have that concussion, you are letting your team down by staying in the fight.”
— Coy Estes, U.S. Army Specialist

“Anybody that’s played [football] knows what a great game it is and what it provides for young people. What it provides for people like me is an opportunity to grow as a person. It’s challenging, it’s tough, it’s hard. There’s no game like football. It’s the type of sport that brings out the best in you. It kind of shows you who you are. I think it’s a huge part of our educational system in this country and it’s going to be around for a long time.”
— John Harbaugh, Head Coach, Baltimore Ravens
To further the sharing of medical research and information between the NFL and armed forces, the NFL invited three military experts, retired four-star General and U.S. Army Vice Chief of Staff Peter Chiarelli; Colonel Dallas Hack, Director, Combat Casualty Care Research Program, Chair, Joint Program Committee 6 (Combat Casualty Care), and U.S. Army Medical Research and Material Command, Ft Detrick, Md.; and Lieutenant Colonel Gerry York, Defense and Veterans Brain Injury Center Site Co-Director, to participate in the research advisory board of the GE-NFL Head Health Initiative, a four-year research program aimed at improving diagnosis, prevention and treatment for TBIs (see page 18).

Together, the NFL and U.S. Army continue to work to improve education and awareness on the identification and treatment of head injuries among NFL players and service members for the benefit of all.

“I think the NFL and the Army have done an incredible job being at the forefront of this, and it’s sort of helped kill the stigma that you’re not tough if you don’t carry on, if you don’t continue.”

— Ryan Kalil, Carolina Panthers player

Former NFL player Herschel Walker has embarked on a tour of military bases to share his personal story of struggles with mental health, and encouraging 32,000 service members to share their struggles and ask for help. Walker has already completed more than 60 visits at home and abroad.

“To each his own I suppose but let me be real clear right from the start; if I had a son I would absolutely let him play the sport of football. In fact, I would highly encourage it if he were so inclined.”

— Ross Tucker, former NFL player
ADVANCES IN RESEARCH
THE GE-NFL HEAD HEALTH INITIATIVE

The NFL has focused on supporting efforts that accelerate progress and innovation. A new and exciting partnership was announced in March with the launch of the GE-NFL Head Health Initiative, a four-year, $60 million collaboration with GE and Under Armour to improve the health and safety of athletes, members of the military, and society overall through advances in concussion-related research. This joint initiative will accelerate the next generation of progress around brain injury diagnosis and treatment, aiding an estimated 1.7 million people in the United States who sustain a traumatic brain injury (TBI) each year.

The Head Health Initiative is comprised of two components:

- **A four-year, $40 million research and development program** between the NFL and GE, the world’s leader in medical imaging, to evaluate and develop next-generation imaging technologies to improve diagnosis and allow for targeted therapy treatment for patients with TBI.

- **A two-year, $20 million open Head Health Challenge**, inviting scientists, researchers, entrepreneurs, academics and other experts to identify new and better ways to understand, diagnose and protect against brain injury.

In addition, the Army and the NCAA will join the NFL to help create game-changing solutions that transcend sports and reach across our society – from professional and recreational sports to the military. This work will benefit young athletes with next generation brain protection and assist our soldiers who will receive faster and more accurate diagnosis of their injuries.

**Advancing Research to Map Brain Imaging Biomarkers**

The four-year Head Health Initiative research program will take a whole-brain approach to determine the key magnetic resonance imaging (MRI) biomarkers for potential diagnosis, outcome prediction, and therapy management for patients with TBI. The research study will be guided by an independent advisory board consisting of a cross-disciplinary team of medical professionals from various academic, professional and military institutions.
Head Health Challenge: Two Challenges to Advance Science

From Charles Lindbergh’s first non-stop flight across the Atlantic, to identifying a biomarker to measure the progression of Lou Gehrig’s disease or ALS, prizes have been used as inspiration for great advancements in science and technology, answering critical needs of the time. The NFL, along with GE and Under Armour, is harnessing this approach to accelerate solutions for brain protection.

Through two innovation challenges over the course of two years, the organizations are pledging to find and fund ideas in critical areas:

- Challenge I: Methods for Diagnosis and Prognosis of Mild Traumatic Brain Injuries
- Challenge II: The Mechanics of Injury: Innovative Approaches For Preventing and Identifying Brain Injuries

Challenge I: Methods for Diagnosis and Prognosis of Mild Traumatic Brain Injuries

Challenge I focuses on technologies and imaging biomarkers to advance the detection and management of TBIs, addressing the current technical and scientific limitations in diagnosis of brain injuries, as well as assessment of long-term chronic impact.

This Challenge emphasizes a need for a better understanding of the molecular, physiological and behavioral/biomechanical changes that occur shortly after a traumatic event, and advancements needed in the ability to reliably diagnose brain injury. The ability to accurately diagnose should, in turn, lead to improvements in treatment. In addition to benefiting athletes who are dealing with brain injuries, this research will also aid members of the military and civilians with head trauma.

Focus areas for Challenge I include:

- Development and validation of imaging and/or sensor based biomarkers that can aid in the diagnosis and prognosis of mild traumatic brain injury events.
- Development of new technologies that are more sensitive to small contusions and injuries that are missed by current technologies; assessment of the long-term impact of these events.
- Improved algorithms for the quantification and visualization of markers of brain injury severity and longitudinal change.
- Algorithms and tools that link imaging data to clinical, cognitive and biomechanical data.
- Models of individual risk and long-term prognosis and clinical decision support tools using population studies.
- Robust methods for triaging acute-stage events and developing return-to-play guidelines using physiological, molecular, electrical or physical changes in brain or body functions.

Challenge I launched on March 13 and closed on July 15, with more than 400 submissions representing some of the top medical institutions from 27 countries around the world. Multiple cash awards with a cumulative total value of up to $10 million will be made, along with the possibility of future partnership and collaboration with GE.

Head Health Initiative Research Advisory Board

<table>
<thead>
<tr>
<th>Name</th>
<th>Title and Affiliation</th>
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<tbody>
<tr>
<td>Dr. Thomas McAllister</td>
<td>Millennium Professor of Psychiatry and Neurology, Director of the Section of Neuropsychiatry and Vice Chair for Neuroscience Research for the Department of Psychiatry, Geisel School of Medicine at Dartmouth; Chair of the Department of Psychiatry and the Albert Eugene Sterne Professor of Clinical Psychiatry, Indiana University School of Medicine</td>
</tr>
<tr>
<td>Dr. Richard Ellenbogen</td>
<td>Theodore S. Roberts Endowed Professor, Chair of the Department of Neurological Surgery, University of Washington (UW); Co-Director of the Seattle Sports Concussion Program for Seattle Children's Hospital and UW; and Co-chair of the NFL Head, Neck and Spine Committee</td>
</tr>
<tr>
<td>Dr. Russell Lonser</td>
<td>Chair of The Ohio State University Wexner Medical Center Department of Neurological Surgery; Head of the Research Subcommittee of the NFL’s Head, Neck and Spine Committee</td>
</tr>
<tr>
<td>Dr. Geoffrey Manley</td>
<td>Chief of Neurosurgery, San Francisco General Hospital; Professor and Vice Chairman, Neurosurgery, Co-Director Brain and Spinal Injury Center, University of California, San Francisco</td>
</tr>
<tr>
<td>Dr. Pratik Mukherjee</td>
<td>Attending Neuroradiologist and Associate Professor of Radiology and Biomedical Imaging, Bioengineering and Therapeutic, University of California, San Francisco</td>
</tr>
<tr>
<td>Lt. Col. Gerald York</td>
<td>Active Duty radiologist, Certificate of Added Qualification in Neuroradiology, Brooke Army Medical Center, Houston, Texas</td>
</tr>
<tr>
<td>Col. Jamie Grimes</td>
<td>National Director, Defense and Veterans Brain Injury Center</td>
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<tr>
<td>Dr. Larry Leverenz</td>
<td>Clinical Professor, Department of Health and Kinesiology, Director of Athletic Training Education, Purdue University</td>
</tr>
<tr>
<td>Dr. Teena Shetty</td>
<td>Neurologist, Hospital for Special Surgery</td>
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<tr>
<td>Dr. Brian Hainline</td>
<td>Chief Medical Officer, NCAA</td>
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“We’ve never had a partnership that took a large issue in society and said we need faster advancement.”

— Roger Goodell, NFL Commissioner
THE GE-NFL HEAD HEALTH INITIATIVE

Proposals will be evaluated based on:

1. Potential to improve the diagnosis or prognosis of TBI.
2. Appropriate technologies, such as portable technology for proposals to aid in diagnosing brain injury on a playing field or sideline, or improvements in brain scanning technology for hospitals or doctors’ offices.
3. Technologies that can demonstrate proof of concept within 1-2 years are preferred. However, game changing technologies will be strongly considered if good progress towards proof of concept and utility can be shown within 1-2 years.

Winning submissions will be announced in February 2014 after review by a panel of external judges that includes leading experts in brain health research, imaging technologies, and advocates for advances in brain research. Challenge I judges include:

<table>
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<th>Name</th>
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<tr>
<td>Dr. William J Heetderks</td>
<td>Director of Extramural Science Programs, National Institute of Biomedical Imaging and Bioengineering, National Institutes of Health</td>
</tr>
<tr>
<td>Dr. Walter Koroshetz</td>
<td>Deputy Director, National Institute of Neurological Disorders and Stroke, National Institutes of Health</td>
</tr>
<tr>
<td>General Peter Chiarelli</td>
<td>Chief Executive Officer, One Mind for Research; Retired four-star General with 40 years of experience with the U.S. Army and Department of Defense</td>
</tr>
<tr>
<td>Colonel Dallas Hack</td>
<td>Director, Combat Casualty Care Research Program; Chair, Joint Program Committee 6 (Combat Casualty Care), U.S. Army Medical Research and Material Command, Ft Detrick, Maryland</td>
</tr>
<tr>
<td>Dr. Geoff Manley</td>
<td>Chief of Neurosurgery, San Francisco General Hospital; Professor and Vice Chairman, Neurosurgery, Co-Director Brain and Spinal Injury Center, University of California, San Francisco</td>
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Challenge II: The Mechanics of Injury: Innovative Approaches for Preventing and Identifying Brain Injuries

Launching in the fall of 2013 and supported by the NFL, GE and Under Armour, Challenge II will invite proposals to advance the state-of-the-art for preventing and detecting TBIs, specifically new materials and technologies that can better protect the brain from injury, and innovative approaches for tracking head impacts in real time.

Challenge II features dual goals of preventing injuries by reducing impact forces transmitted to the brain, and providing a better understanding of the relationships between physiological biomarkers, mechanical factors responsible for brain injuries, and advanced brain imaging markers.

Focus areas for Challenge II include:

- **Protection Against Injury**
  - Materials or devices that can distribute the force of impact, including smart materials or active polymers that are comfortable but can adapt to sudden impacts are highly desirable.
  - Systems to predict and initiate protective responses to prevent injury, including systems that activate adaptive padding at the focus of impact.

- **Monitoring and Identifying Injury**
  - Systems that monitor and integrate directional and rotational impact forces with imaging/diagnostic equipment.
  - Sensors to provide biofeedback to modify behaviors that predispose athletes to injury.
  - Systems that monitor biomechanical and physiological responses to detect injury.
  - Systems to efficiently collect, interpret and organize large quantities of real-time data.

Regular updates for both Challenges are available through the Head Health Challenge website, NFLGEBrainChallenge.com, which features additional information and background on the challenge questions and criteria, how to submit a response, program updates, and resources for challenge participants including a forum to pose questions to a dedicated initiative support team. In addition, a webinar was hosted on May 22, dedicated to providing background information on Challenge I, answering potential participants’ questions, and ensuring participants are aware of all resources, rules and guidelines for participation. Interested parties can also sign up for email updates to learn more about future opportunities to engage with the support team.

Through this unprecedented partnership, GE’s cutting-edge technology and expertise in health care meets the NFL’s visibility and drive to, above all, protect and improve player health, leading to advancements in neurological care that benefit all.
As longstanding partners of the NFL, we recognize the magnitude of this initiative, and the impact it will have for athletes at all levels. Under Armour was founded upon the pillar of making all athletes better through the relentless pursuit of innovation. We take great pride in supporting this effort to reward new ideas and breakthrough concepts in this space, particularly as it applies to protecting athletes and influencing positive change in sports.

— Kevin Plank, Founder and CEO of Under Armour
NIH RESEARCH UPDATE

The NFL provides unrestricted grants to medical institutions in order to accelerate independent health and safety research. The single-largest donation in NFL history is a five-year, $30 million grant for the funding of medical research to the Foundation for the National Institutes of Health (FNIH), announced on September 20, 2012. The Sports and Health Research Program (SHRP) was formed through a public-private partnership of the National Institutes of Health (NIH), the FNIH and the NFL to administer the grant. Research supported through SHRP will focus initially on brain injury, especially in athletes and veterans, and will be conducted under the direction of the NIH, the nation’s leading public medical research agency and one of the world’s foremost medical research centers.

An initial focus of the SHRP research agenda was shaped through the Neuropathology of Chronic Traumatic Encephalopathy Workshop in December 2012, hosted by the NIH National Institute of Neurological Disorders and Stroke (NINDS). The Workshop focused on identifying what is known about the neuropathology of chronic traumatic encephalopathy (CTE), and what research strategies and resources are needed to fill critical gaps in knowledge.

The two-day workshop was attended by 60 experts in neurodegenerative disease, as well as representatives from military and sports organizations. The resulting NIH-published report laid the groundwork for the development of a five-year research plan by establishing what is currently known about CTE and its symptoms; identifying promising imaging tools and biomarkers; examining who is at risk for CTE; identifying how challenges to neuropathology research on the brain can be met; and developing key research questions to inform next steps.

Based on the workshop findings, SHRP has initiated the research funding process by issuing three funding opportunity announcements through NIH.

NECK STRENGTH LINKED TO CONCUSSION RISK

A pilot study conducted at the Colorado School of Public Health found that overall neck strength is a statistically significant predictor of concussion risk. The study found that for every one-pound increase in neck strength, concussion risk fell by 5 percent. Researcher Dawn Comstock has submitted this study for peer-review.

“We are encouraged by the momentum the SHRP team is building in such a short time with the announcement of these pioneering new research initiatives. Thanks to the generosity of the NFL, the program will provide us with invaluable data and ultimately ways to prevent and treat injuries in ways that will benefit athletes and non-athletes alike.”

— Maria Freire, Ph.D., President, Foundation for the National Institutes of Health
Challenges and Key Questions:

- Brains studied to date have come from a narrow population of mostly professional athletes, resulting in a lack of data regarding the frequency of CTE. What are the population prevalence and incidence of CTE, and are there genetic susceptibilities to CTE?
- A large study of many persons who were exposed to repetitive head injury but have died for other reasons would expand knowledge of CTE. What is the best way to recruit brain donors with histories of repeated head injury while ensuring standard protocols for harvesting and preserving tissue samples are followed?
- What is the number of impacts to the head and the related magnitude that cause CTE?
- Current imaging technology is a major challenge in understanding CTE as the pathology can only be observed through post-mortem examination and cannot currently be detected through traditional MRI or PET scans. How can CTE be diagnosed in living people?
- What neuroimaging tools and biomarkers show promise in diagnosing CTE and providing information about the disease processes and progression?

Collaborative Research on Chronic Traumatic Encephalopathy and Delayed Effects of Traumatic Brain Injury: Neuropathology and Neuroimaging Correlation

Grants will be used to fund comprehensive studies of the effects of TBI in individuals exposed to repetitive head injury, as well as individuals who have died after repetitive TBI. One goal of this research will be to develop diagnostic tests that can be used in the general population.

This SHRP research initiative will investigate the neuropathology of CTE and the delayed effects of TBI. As part of this effort, grants will be used to support a multi-center team of neuropathologists, neurologists, neuroradiologists and other scientific experts to increase our understanding of CTE and other delayed effects of physical trauma to the brain, as well as the development of improved diagnostic tools that can be used in the general population. Comprehensive studies of the effects of TBI in individuals exposed to repetitive head injury, as well as individuals who have died after repetitive TBI, will be conducted.

Its main areas of research include:

- Developing a better understanding of how commonly CTE occurs in those exposed to a variety of head injuries.
- Development of neuroimaging or other tools that can diagnose the condition in living people, and can inform the relationship between clinical signs, symptoms and risk factors for post-traumatic neurodegeneration and CTE.
- Comparisons between repetitive traumatic events and single events.
- Characterizing the relationship of CTE with other neurodegenerative disorders such as Amyotrophic Lateral Sclerosis and Alzheimer’s disease.

In addition, this research aims to establish a brain-donor program that will link high-quality behavioral information with neuropathology from an unbiased sample and distribute biospecimens and other relevant information to qualified investigators, thereby promoting data and tissue sharing to maximize the value of the brain donation.

Pilot Projects on Sports-Related Brain and Spinal Cord Injury

The second research initiative includes two funding opportunities – one for exploratory, novel studies and another funding opportunity for pilot or feasibility studies. This initiative will support pilot projects on sports-related TBI and spinal cord injury and explore new research directions to address the many gaps in knowledge that exist about these conditions. The program will provide support through small grants and larger exploratory/developmental grants for research on such topics as:

- Mechanical and biological mechanisms of injury and recovery.
- Genetic and environmental risk factors.
- Development of age-appropriate diagnostics and equipment for prevention.
- Ways that pain medications, psychiatric medications and other substances may interact with the effects of trauma.
- Preclinical therapy development for improving outcomes.

These announcements were available through the SHRP website on FNIH.org and widely advertised to the biomedical research community by NIH. More than 170 submissions were received during the open period of April-May 2013. NIH review of the applications for scientific merit began in August. The highest rated proposals will be presented to the Institute’s advisory council in October with a goal of commencing research prior to the end of the year.

In the future, SHRP may expand to encompass other sports-related issues such as chronic degenerative joint disease, the transition from acute to chronic pain, sudden cardiac arrest in young athletes, and heat and hydration-related illness and injury.

“We are really excited about this partnership. I think [the NFL’s] engagement and the potential future engagement of other sports organizations has the potential to produce great progress in our understanding of brain injuries in sports and outside of sports as well.”

— Story C. Landis, Director, National Institute of Neurological Disorders and Stroke
CREATING A CONSENSUS IN SPORTS CONCUSSION MANAGEMENT

4th International Consensus Conference on Concussion in Sport

Collaboration among academic, medical and sports experts is key to advancing research and the management of concussions. In November 2012, various members of the NFL health and safety committees were invited to participate in the 4th International Consensus on Concussion in Sport (ICCS) in Zurich, Switzerland. The conference, hosted by FIFA, is the preeminent international gathering of leaders in sports concussion, including medical experts and sports leagues from around the world.

Several of the experts in attendance who presented at the conference are members of the NFL’s Head, Neck and Spine (HNS) Committee, including:

- Dr. Richard Ellenbogen, Co-Chair of the Committee
- Dr. Margot Putkian, Chair of the HNS Subcommittee on Return-to-Play Issues
- Dr. Kevin Guskiewicz, Chair of the HNS Subcommittee on Safety Equipment and Playing Rules
- Dr. Stanley Herring, Chair of the HNS Subcommittee on Advocacy and Education

Dr. John York, San Francisco 49ers Co-Chair and Chair of the NFL Owners’ Committee on Health and Safety, represented the NFL. These participants shared updates on the NFL’s commitment to player health and safety, including the impact of rule changes on head injuries, the NFL’s approach to sideline evaluation, the role of procedures and policies in concussion diagnosis, and the NFL’s efforts to help pass youth concussion legislation across the United States.

Dr. Herring moderated a panel discussion on whether youth athletes should participate in contact sports before a certain age, touching on key concepts from the Heads Up Football program, including the value of and need to teach proper fundamentals to parents, coaches and athletes, and educating coaches on effective concussion recognition and response.

RESEARCH UPDATE

AAN Concussion Guidelines Updates

In March 2013, the American Academy of Neurology (AAN) released an update to their 1997 guidelines for evaluating and managing athletes with concussion. Return-to-play guidelines were specifically cited among the important guidelines issued by AAN, with a recommendation that athletes with suspected concussion be immediately removed from play and not returned until they are evaluated by a licensed health care professional trained in concussions.
Recommendations and a consensus statement are developed in accordance with NIH standards following each ICCS. The consensus statement incorporates advances in understanding around concussion detection, prevention and treatment and provides guidance for athletes, coaches and physicians at all levels of sport on a number of topics, including the sideline evaluation of concussion, rule changes in sport, injury prevention through protective equipment, and chronic traumatic encephalopathy (CTE).

The consensus document is intended for use by physicians and health care professionals who care for athletes at the recreational and professional level, but has a much greater reach, impacting the policies of sports leagues around the globe and setting a standard for concussion management and care.

The full conference consensus statement and supporting materials, including a concussion recognition tool, sports concussion assessment tool and child concussion assessment card are available free online at: Concussion-In-Sport.com/2012.

“The Zurich panelists agreed that sports have made advancements in youth athlete player safety and that more work needs to be done. In football, it is essential to introduce proper tackling techniques early in a player’s career and to avoid unnecessary head contact.”

— Dr. Stanley Herring, Chair, NFL HNS Subcommittee on Advocacy and Education

ICCS Key Findings:

- The science of concussion is constantly evolving.
- Return-to-play (RTP) decisions remain in the realm of clinical judgment on an individual basis; there is no standard to follow beyond not allowing RTP on the day of the injury.
- Physical and cognitive rest is key to recovery.
- A progressive RTP protocol is recommended, with athletes advancing once they are asymptomatic at their current level.
- Children may take longer to recover than adults, and should not return to sports until they have successfully returned to school; in general, a conservative and cautious approach is recommended with concussion management for children.
- Pre-participation physicals allow for the collection of a detailed concussion history, which may help identify athletes who fit into a high-risk category and provide an opportunity to educate all athletes on concussion risk.
- A cause-and-effect relationship between CTE and concussions or exposure to contact sports has not yet been demonstrated, and the interpretation of causation in CTE case studies should proceed cautiously.
- Current science does not show current protective equipment will prevent concussion.
-Athletes, referees, administrators, parents, coaches and health care providers need to be educated about the serious nature of concussions, as well as concussion identification, management and return to play.

RESEARCH UPDATE

USA Football Studies Youth Player Health and Safety

In February 2012, USA Football commissioned Datalys Center for Sports Injury Research and Prevention to conduct an independent, scientific, two-year study of 10 youth football leagues in six states to examine player health and safety in organized youth tackle football. Preliminary results from the first year of the study found:

- More than 90 percent of the 1,913 youth players did not suffer an injury restricting participation.
- Fewer than 10 percent of players incurred an injury; of those, 64 percent were categorized as minor and athletes returned to play on the same day.
- Contusions were the most common injuries at 35 percent, followed by ligament sprains at 15 percent.
- Less than 4 percent of the youth players sustained a concussion.
- No catastrophic head, neck or heat-related injuries were reported.

The final study results will be released in 2014, with ongoing research planned for future years.
HEALTH AND SAFETY COMMITTEES: ADVANCING PLAYER SAFETY

NFL health and safety committees include independent experts from a variety of medical fields, as well as experts in the sport. The committees advance player health and safety by providing guidance to the NFL on its medical research process, including the review of medical grants; identifying priority areas for research, rules and more; analyzing injury data; and developing recommendations for new or updated safety rules, policies and procedures.

The committees provide feedback throughout the year to inform NFL practices. For example, with the increase in the number of Thursday night games in the 2012 season, there was a concern that players’ recovery time would be limited, potentially increasing the risk of player injury. A review of the injury data showed no increase in risk of injury for games played on Thursday, with a rate of 5.2 injuries per game, as compared to Saturday, Sunday and Monday games with a rate of 5.3. The Competition Committee will continue to monitor this and other injury data relevant to NFL policies and safety rules.

Committee members also act as ambassadors for health and safety in sport through their participation in scientific meetings, conferences and other public events where they share updates on research, educating the public on best practices in sports safety, especially in the diagnosis and management of concussions, and addressing key questions regarding the risk and reward of sport. For example, in addition to participating in the 4th International Consensus on Concussion in Sport, Drs. Stanley Herring and Margot Putukian of the NFL Head, Neck and Spine Committee demonstrated the NFL’s sideline concussion protocol to the media during the 2013 NFL Combine. The public demonstration of the protocol used to assist in the diagnosis of players who may have sustained head injuries allowed members of the media to see the protocol in action and ask questions about NFL sideline concussion management.

In 2013, there were several additions to the NFL Competition Committee, which studies all aspects of the game and recommends rules and policy changes to NFL clubs. Pittsburgh Steelers coach Mike Tomlin was named to the committee while four coaches were named to the Coaches’ Subcommittee - Minnesota’s Leslie Frazier, Miami’s Joe Philbin, Carolina’s Ron Rivera and Atlanta’s Mike Smith.
Reseach Update

Dr. Mayland Chang, faculty member at the University of Notre Dame’s Department of Chemistry and Biochemistry and recipient of a 2010 medical research grant from the NFL, is studying an enzyme inhibitor which she hopes can one day provide a treatment to those who suffer a severe traumatic brain injury (TBI).

Dr. Chang is studying the potential for an enzyme-inhibiting compound that can intervene and prevent secondary injury in which a cascade of biochemical events cause cell death in the hours and days following a TBI. Through her research, Dr. Chang hopes to find a way to prevent or decrease the secondary injury to the brain following a TBI.

While the complete results of the study are not yet available, Dr. Chang’s preliminary data on animals show that the compound successfully delivers the enzyme inhibitor to the brain.

Dr. Chang’s work was inspired by TBIs of two members of her family, including her son, who sustained a concussion while snowboarding.
YOUTH EDUCATION AND OUTREACH
SHARING HEALTH AND SAFETY INFORMATION WITH PARENTS

The NFL has a tradition of leadership in sports to promote safe and fair play at all levels. Youth outreach and education continue to be a focal point for NFL health and safety efforts.

Since the Fall 2012 Health & Safety Report, the NFL has promoted health and safety in youth sports with parents, coaches and youth players across the United States. Ongoing Fan Forums have provided an opportunity for those involved in youth football to learn more about health and safety, culminating in the ultimate fan event, NFL Experience at Super Bowl XLVII in New Orleans. Fans participated in an interactive NFL Health and Safety exhibit that highlighted the league’s work on advocacy, safety rules, research and equipment; got a first-hand look at examples of the protective knee and thigh pads that will be mandatory for all NFL players starting in the 2013 season; and learned about the importance of proper helmet fitting through demonstrations and fitting sessions from Riddell and Rawlings. Younger fans were invited to participate in NFL PLAY 60 clinics providing key health and safety information on heat and hydration, and concussion awareness and management.

“So we hope people have an accurate understanding of what we generally believe the risks to be, but certainly some people may be overly concerned and that may be because of some of the things that I have said. I’ll accept that because I think people are dramatically safer playing football now than they were five years ago. I think Dr. Batjer and the other doctors of the NFL on the new committee are doing a great job and have moved the pendulum very far in terms of safety. I’ll accept a little alarmism for safety.”

— Chris Nowinski, Co-Director, Center for the Study of Traumatic Encephalopathy, Boston University School of Medicine; Co-Founder and President, Sports Legacy Institute
The NFL has also connected with parents and coaches of youth sports through social media. During the last year, the NFL hosted three health and safety roundtable events at league headquarters, aimed at reaching parenting writers and bloggers with important information on many topics pertaining to youth sports safety. More than 40 writers attended each event, where they heard from speakers — including NFL Commissioner Roger Goodell, USA Football Executive Director Scott Hallenbeck, representatives from the Centers for Disease Control and Prevention (CDC), and neuropsychologists — on issues ranging from signs and symptoms of concussion to the proven value of sports participation.

Recent Events and Highlights

In support of Brain Injury Awareness Month, the NFL co-hosted a Twitter chat with the Centers for Disease Control and Prevention, USA Football, and the National Parent Teacher Association (PTA) on March 25. Parents, educators, coaches and medical professionals from across the country participated in the digital conversation, posing questions to experts representing the co-hosts. The conversation, tracked with the usage of #BrainInjury, was a trending topic on Twitter during the chat.

On June 11, nine national youth sports organizations — US Soccer, USA Hockey, USA Football, USA Basketball, US Lacrosse, Little League Baseball, USA Gymnastics, USA Cheer and the National Federation of State High School Associations — were invited to NFLs headquarters to participate in a roundtable discussion about youth sports safety. Bloggers from more than 30 outlets were also invited. Participants shared details about initiatives to enhance youth sports safety and discussed opportunities to improve communication across leagues to address youth sports health issues.

On June 21, the NFL participated in the National Parent Teacher Association (PTA) annual convention in Cincinnati, Ohio. During a panel discussion titled, “Health and Safety for a New Generation,” NFL Commissioner Roger Goodell joined Betsy Landers, former National PTA President; Elizabeth Pieroth, Psy.D., ABPP, Head Injury Consultant, Chicago Bears and Neuropsychologist, NorthShore University HealthSystem and USA Football Heads Up Football Advisory Committee Member. The panelists discussed the important role parents play in making decisions about their children’s recreational activities, the rewards of sports participation, and the lessons of team sports participation.

As part of the event, the NFL and PTA announced a partnership on youth health and fitness, launching nationwide this fall. The “Back to Sports” initiative will help PTA leaders across the country educate their communities on youth wellness – from concussion education to NFL PLAY 60 tips to staying active. Local PTAs will plan “Back to Sports Nights,” engaging parents and community leaders on ways to help their kids stay safer and healthier as they head back to the sports field this fall.

The “Back to Sports” initiative marks the first time the National PTA has partnered with a sports organization, and Commissioner Goodell’s appearance at the PTA Convention is the first time a sports commissioner has addressed PTA constituents at the event.

Commissioner Goodell and Ohio State Head Football Coach Urban Meyer hosted more than 500 Ohio mothers at the first-ever OSU-NFL Moms Football Safety Clinic. This free event emphasized player health and safety — including education on proper equipment fitting, concussion awareness, heat and hydration, and proper tackling technique. The three-hour clinic included a town hall, providing participants an opportunity to ask Commissioner Goodell and Coach Meyer questions.

This summer, Dallas Cowboys Executive Vice President and Chief Brand Officer Charlotte Jones Anderson, who also serves as chairman of the NFL Foundation, addressed bloggers on youth sports safety at the annual BlogHer convention, a large-scale gathering of bloggers, which draws more than 5,000 attendees annually. This year’s BlogHer was held in Chicago and Anderson spoke with the group not only as a football executive and chairman of the foundation, but also as a parent whose children participate in sports. As part of the panel, Anderson was joined by Dr. Pieroth and bloggers who cover parenting issues.

Through events like these, and ongoing outreach, the NFL will continue to involve parents in the conversation about health and safety at all levels of the game and across all sports.
The NFL has nearly achieved its goal of the passage of a Lystedt or similar law in all 50 states. An additional eight states have passed concussion legislation since the Fall 2012 Health & Safety Report, bringing the national total to 48. Zackery Lystedt is a young man from the state of Washington who suffered a significant brain injury when he returned to play in a middle school football game after sustaining a concussion. Zackery, his family and a broad range of medical, business and community partners lobbied the Washington state legislature for a law to protect young athletes in all sports from returning to play too soon.

“When we watch an NFL game, we see it so differently from others. The penalties you don’t like or the score you aren’t happy with are so insignificant. We know how impressionable the game is on our youth and are so proud of the NFL’s push for safety and the concern for its players.”

— Victor Lystedt, Zackery’s father

These laws protect young athletes from returning to play too soon through three essential elements:

• 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/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 health care professional must clear the young athlete to return to play in the subsequent days or weeks.

In March, the CDC published two reports looking at return to play laws. **Get a Heads Up on Concussion in Sports Policies** provides important information for parents, coaches and school and sports officials about taking concussions seriously, and on laws about concussion in sports. The report outlines the three essential elements of the Lystedt Law and summarizes some of the additional policies schools and sports leagues around the nation have included in their concussion management plans such as:

• Creating a concussion emergency medical action plan.
• Limiting contact during sports practices.
• Enacting rule changes including banning or limiting drills or techniques that may increase risk of injury.
• Checking sports equipment often to make sure it is in good condition and fits athletes properly.
• Focusing on education for parents, coaches and athletes through posted information and regular training sessions.

The NFL will continue to work to raise awareness about the importance of adopting return to play laws until all children in the United States are protected, and the pledge that Commissioner Goodell made after meeting the Lystedt family in October 2010 is fulfilled.
Implementing Return to Play: Learning from the Experiences of Early Adopters was also released in March 2013 by the CDC. The National Center for Injury Prevention and Control assesses the implementation of two of the earliest return to play laws, in Washington and Massachusetts, through a case study evaluation. The report provides an analysis of implementation challenges and successes, noting education and outreach as key components to execution, specifically when targeted to key groups including parents, referees, league coaches and health care professionals.

Both reports can be downloaded for free from: cdc.gov/concussion/policies.html.
HEADS UP FOOTBALL: TAKING THE HEAD OUT OF THE GAME

The NFL joined forces with USA Football, the sport’s national governing body and the official youth football development partner of the NFL, to develop a comprehensive, national program designed to make football a better and safer experience for all youth, high school and other amateur players. Heads Up Football was officially launched on April 24, 2013, by NFL Commissioner Roger Goodell, NFL Foundation Chairman and Dallas Cowboys Executive Vice President Charlotte Jones Anderson, and USA Football Executive Director Scott Hallenbeck.

The educational outreach program, funded by a $1.5 million grant from the NFL Foundation, strives to improve player safety at the youth level by focusing on proper tackling technique and taking the head out of the game. Heads Up Football represents a key initiative between the NFL and USA Football that will improve the health and safety of sports and youth football through education.

“The culture of youth football is changing in a positive direction – as it must. There is greater awareness of the risks of brain injuries and greater attention to reducing those risks by teaching safer and smarter play. I applaud Commissioner Goodell, the NFL and USA Football for accelerating this effort, and I commend the coaches involved in teaching Heads Up Football to players across the country.”

— Inez Tenenbaum, Chairman, U.S. Consumer Product Safety Commission

“What we expect long-term is to actually change the culture of the sport. Parents are coming to us already who have experienced Heads Up Football and they’re saying, ‘Thank you. You’re making me feel more comfortable.’”

— Scott Hallenbeck, Executive Director, USA Football
Heads Up Football is comprised of five primary elements:

<table>
<thead>
<tr>
<th>Heads Up Tackling</th>
<th>USA Football’s Heads Up Tackling Technique, endorsed by medical and football experts, teaches players to keep their heads up and out of the line of contact.</th>
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<tbody>
<tr>
<td>Coaching Certification</td>
<td>All participating coaches are trained to teach the game’s fundamentals by completing USA Football’s nationally accredited Level 1 Coaching Certification Course. These are the highest national coaching standards for youth football.</td>
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<tr>
<td>Concussion Recognition and Response</td>
<td>Coaches learn and are assessed on the Centers for Disease Control and Prevention (CDC) concussion recognition and response protocols through USA Football’s Level 1 Coaching Certification Course. Coaches, parents and players are taught concussion-related protocols at the start of the season at a league-wide clinic. These protocols are reinforced throughout the season by the Player Safety Coach, who will monitor their league’s practices and games in addition to using on-site clinics and mentoring.</td>
</tr>
<tr>
<td>Player Safety Coach</td>
<td>Appointed by each participating Heads Up Football youth organization, this individual is trained by USA Football to implement Heads Up Football’s player safety protocols, including coaching certification. Player Safety Coaches also conduct safety clinics for coaches, parents and players.</td>
</tr>
<tr>
<td>Equipment Fitting</td>
<td>Coaches, parents and players are taught proper helmet and shoulder pad fitting.</td>
</tr>
</tbody>
</table>

In 2013, all Heads Up Football leagues in underserved communities will be eligible to participate in a helmet refurbishment program, which will recondition and provide new helmets for youth leagues at no cost. This initiative represents a continuation of the helmet replacement program launched in 2012 by the NFL and a host of partners, including the U.S. Consumer Product Safety Commission.

Heads Up Football Advisory Committee

Heads Up Football is guided by an advisory committee of 22 youth football experts, current and former coaches from all levels, retired NFL players, educators, medical professionals and parents of football players. The committee will provide feedback and direction on further development of the Heads Up Football program.

Members of the Heads Up Football Advisory Committee gathered with representatives from USA Football and the NFL at NFL headquarters in New York City on May 30. During the meeting, Advisory Committee members discussed how members of the football community – parents, coaches, commissioners, current and former NFL players and coaches, medical professionals, and others – can advance player health and safety in youth football. The committee provided feedback on the Heads Up Football initiative and discussed how to extend the program to all 10,000 youth tackle football leagues across the country. They also provided feedback on best practices for communicating to parents and players the importance of coaching certification, proper equipment fitting and using the appropriate techniques to take the head out of the game.

Members of the Advisory Committee, representing a diverse range of backgrounds and expertise, include:

- LaVar Arrington, Former NFL player
- Trish Arrington, Wife of former NFL player, mother of youth football players
- Dr. Mitchell Berger, President, American Association of Neurological Surgeons; Member, NFL Head, Neck and Spine Committee
- Cris Collinsworth, Former NFL player; NBC Sports football analyst
- Bill Cowher, Former NFL player and head coach; CBS Sports football analyst
- Brett Favre, Former NFL player; high school football coach
- Whoopi Goldberg, Actress, comedian, singer-songwriter, author, talk show host
- Christine Golic, Mother of two football players; wife of former NFL player
Master Trainers and Player Safety Coaches

An integral element of Heads Up Football is its network of coaches, starting with its Master Trainers, who instruct youth football league-appointed Player Safety Coaches, who in turn implement the Heads Up Football program. In addition to ensuring league-wide completion of the Level 1 Coach Certification Course, Player Safety Coaches conduct Heads Up Football Coaches Clinics and a Heads Up Safety Clinic for parents and players within each league. Throughout the season, Player Safety Coaches monitor their league’s practices and games, and work alongside league commissioners, coaches, parents and players to implement the protocols of Heads Up Football.

USA Football conducted its first Master Trainer workshop in Indianapolis in March, instructing 21 of the top high school football coaches in the nation, as well as former NFL and college players, on the proper elements of the Heads Up Football program.

“You need to get the new [coaches] coming in to really focus on what’s important. It’s safety No. 1. You have to talk to the older coaches and say, ‘This is how it used to be done.’ … We have to change, and we have to focus on safety.”

— Buddy Curry, Heads Up Football Master Trainer and former NFL player

Q&A with Charlotte Jones Anderson, NFL Foundation Chairman

Why is the NFL Foundation supporting Heads Up Football?

The mission of the NFL Foundation states that we are dedicated to improving the health and safety of sports and youth football. Heads Up Football will help us to fulfill that mission. The NFL Foundation and USA Football are collaborating to educate parents and coaches on ways to keep our young players safe. Through Heads Up Football, coaches are required to complete a certification course which teaches proper fundamentals and tackling techniques. Parents and coaches also learn how to ensure players are wearing properly fitted equipment to keep our youth safe.

As a parent who also knows a lot about football, why do you think Heads Up Football is important?

As a parent, I believe it is important for children to learn the correct and safe way to play football. Parents of children who are participating in Heads Up Football will be encouraged knowing that their child will be taught by certified coaches who understand the proper fundamentals of the game and make safety their highest priority.

What benefits do you think children get from playing sports?

I have seen first-hand the benefits of my children participating in sports. They include leadership skills, the value of hard work, the importance of teamwork and being active while building self-confidence. Most importantly, though, they have fun building relationships with their teammates.
Heads Up Football has provided former NFL players an opportunity to enhance player safety in their own communities. One hundred former NFL players, including Randall Cunningham, LaVar Arrington, and Michael Strahan, will play an integral role in the success of the program as Heads Up Football Ambassadors. On May 16, more than 50 former NFL players convened in Indianapolis to kick off the ambassador initiative, participating in a Heads Up Football training session led by Dr. Patrick Kersey, USA Football’s medical director, who demonstrated key elements of concussion recognition and response. The ambassadors also learned Heads Up Tackling techniques for better and safer tackling, and the proper way to fit protective equipment.

These ambassadors serve as the public face of Heads Up Football, working alongside leagues as mentors, attending practices and games, helping to implement the principles of Heads Up Football, and encouraging adoption of the program across the country. Ambassadors will use their unique perspective as former players and role as community leaders to advocate the goals of Heads Up Football.

“The National Football League understands the popularity of its sport and has accepted this as a social responsibility to take on the difficult topics of total health and safety...the bottom line is that in addition to all of the incredible work that the NFL and USA Football are doing with regards to youth health and safety, parent and player involvement is vital to the reduction of concussions.”

— Jessica Cohen, Blogger, FoundTheMarbles.com

Ambassadors to Safety

Heads Up Football Master Trainers include:

Chuck Kyle, head coach, Cleveland St. Ignatius High School; winner of 11 Ohio Division I state titles and three USA Today national championships

John Roderique, head coach, Webb City High School; winner of eight Missouri state high school championships; former assistant coach, NCAA Division II national champion Pittsburgh State University (1991)

Steve Specht, head coach, Cincinnati St. Xavier High School; winner of two Ohio Division I state titles; 2012 Don Shula NFL High School Coach of the Year Award winner

Buddy Curry, veteran youth football coach; former Atlanta Falcons linebacker and 1980 Co-NFL Defensive Rookie of the Year

Helmet Measuring and Fitting Demonstration
Heads Up Football Partners

Pop Warner, the country’s longest-running youth football organization, has endorsed the Heads Up Football program. Pop Warner leagues began voluntary adoption of Heads Up Football this season, with all 1,300 Pop Warner leagues participating in Heads Up Football in 2014.

In advance of the 2014 season, all Pop Warner coaches in 43 states and five foreign countries will be trained in Heads Up Football principles. All Pop Warner head coaches and assistant coaches will complete USA Football’s Level 1 Coaching Certification Course, which includes Heads Up Tackling techniques, concussion recognition and response protocols, and proper helmet and shoulder pad fitting.

More than 590,000 youth football players nationwide will benefit from their leagues’ Heads Up Football participation this season.

In addition to the NFL and NFL Foundation, organizations that support Heads Up Football include the NCAA, the Atlantic Coast Conference, the Big 12, Big Ten and Pac-12 Conferences, the National Federation of State High School Associations, the American Football Coaches Association and the Sports and Fitness Industry Association.

Spreading the Word about Heads Up Football

Engagement with media and the public represents a crucial piece to ensuring that Heads Up Football reaches youth players across the country. On January 16, the NFL and USA Football hosted more than 40 bloggers and writers focused on health and parenting issues at an open forum that allowed participants the opportunity to learn more about the program, its progress, and its plans for the future. Dr. Elizabeth Pieroth led the group in a discussion on youth sports safety, during which bloggers shared their feedback on implementing change in their communities; the need to have qualified medical personnel on the sidelines at youth sporting events; and the risk and reward of sports participation.

The NFL has further embraced the importance of expanding the reach of Heads Up Football through its official launch during the NFL Draft in April 2013. Using the high-profile media event of the NFL Draft as a vehicle to propel the Heads Up Football initiative to a new audience, the NFL Foundation and USA Football were able to successfully spread their message of ushering forth the evolution of the sport by protecting the youngest players. The goals of the program and information on how to get involved were also shared through a Facebook Q&A session with NFL Commissioner Roger Goodell, as well as in a recent appearance on “Live with Kelly and Michael” with NFL great Michael Strahan, where they discussed the national launch of Heads Up Football.

NFL clubs across the country have also hosted Youth Football forums in partnership with USA Football to support the implementation of Heads Up Football in their communities. The free events were open to youth football association presidents and commissioners, and provided an opportunity for attendees to share best practices, learn more about the latest in health and safety in sports including concussion legislation, and learn more about Heads Up Football.
At the 13th annual NFL Foundation-USA Football Youth Summit, attendees were trained in USA Football’s Heads Up Football initiative, including 20 former NFL players serving as Heads Up Football Ambassadors and more than a dozen Player Safety Coaches from pilot Heads Up Football leagues around the country. In addition to Heads Up Football Ambassadors, a select group of coaches, including former NFL players now coaching high school and youth football, 30 delegates representing USA Football State Leadership Forums, and 92 other supporters of youth and high school football, including youth football commissioners and athletic directors from across the country attended the July event in Canton, Ohio.

NFL players will wear helmet stickers in support of the Heads Up Football program this preseason. Fans also will notice on-field stencils and banners in the end zones. NFL teams will hold youth football scrimmage games before kickoff or at halftime and will donate about 150,000 preseason tickets to players in leagues that use the program.

More than 2,700 youth football leagues across the United States, representing more than 590,000 players and 83,000 coaches, have adopted Heads Up Football. Heads Up Football will continue to work toward the goal of 10,000 youth leagues, improving the health and safety of youth players around the nation.

Following the 2013 season, USA Football will engage with youth league commissioners across the country at more than three dozen USA Football State Leadership Forums to discuss and evaluate the inaugural year of the Heads Up Football program and prepare to advance the health and safety of young football players through reaching even more youth leagues in 2014 and beyond.

More information, including how to join Heads Up Football, is available at USAFootball.com/HeadsUp.
2013 SAFETY RULES UPDATE
The rules of football evolve along with the game in an effort to promote better player safety. To this end, playing rules are reviewed annually by the Competition Committee, with guidance from the Player Safety Advisory Panel, the Owners’ Committee on Health and Safety, the Head, Neck and Spine Committee, and other health and safety related NFL committees. Input is also solicited from the NFL Players Association, NFL players and coaches. This annual review by the Competition Committee identifies opportunities to further promote player health and safety through rule changes and special points of emphasis. For the 2013 season, several rule changes were approved that are expected to improve protection for both offensive and defensive players.

The following rule changes focusing on protecting player health and safety will be enacted for the 2013 season:

• The definition of “defenseless player” was expanded to include the offensive player who attempts a snap (long-snapper) during a field goal attempt or point after touchdown (PAT) and the player who receives a blindside block when the blocker is moving toward or parallel to his own end line and approaches the opponent from behind or from the side.

• During a punt, field-goal attempt, or a PAT kick, a defensive player who is within one yard of the line of scrimmage must have his entire body outside of the snapper’s shoulder pads, in an effort to protect the defenseless long-snapper.

• During a field-goal attempt or a PAT kick, no more than six defensive players may be on the line of scrimmage on either side of the snapper at the snap.

• A player who is aligned in the tackle box when the ball is snapped cannot initiate contact on the side and below the waist against an opponent if: a) the blocker is moving towards his own end line; and b) he approaches the opponent from behind or from the side. This rule effectively makes a “peel back” block below the waist illegal in the tackle box (an area extending from tackle to tackle and from three yards beyond the line of scrimmage to the offensive team’s end line).

• It is a foul if a runner or tackler initiates forcible contact by delivering a blow with the top/crown of his helmet against an opponent when both players are clearly outside the tackle box. Incidental contact by the helmet of a runner or tackler against an opponent would not be deemed a foul.

Mandatory Protective Equipment

Protective thigh and knee equipment usage will be mandatory for players beginning in 2013. The initiative was approved in 2012, and the league has coordinated with the NFL Players Association and equipment manufacturers to encourage the development of lighter, stronger and more comfortable thigh and knee pads. The use of protective thigh and knee equipment will be enforced just as the use of helmets or shoulder pads. Game day uniform inspectors evaluate each player and then work with designated team officials to ensure adjustments are made as needed. Players in violation during games are allowed an opportunity to make proper adjustments before penalties are assessed. Prior to the start of the 2013 season, each team’s uniform inspector provided a presentation during training camp, league representatives toured the clubs to share information and players were provided details on approved protective equipment.

“All we’re doing is re-introducing the core fundamentals that the game is built on. Now it’s more important than ever to lead with your shoulder pads.”

— Merril Hoge, former NFL player
Sideline Evaluations

In addition to these new rules, the use of electronic tablets on the sidelines will be required by all clubs to assist team physicians with the diagnosis of concussions. During games, physicians will use an app to review a step-by-step checklist of protocols and the injured player’s concussion baseline tests. The use of electronic tablets was made mandatory following a successful eight-team pilot program that was launched during the 2012 season. Throughout the 2013 season, the incorporation of player electronic medical records (EMRs) onto the electronic tablets will be piloted by eight teams — the Baltimore Ravens, Denver Broncos, Houston Texans, New England Patriots, New York Giants, New York Jets, Pittsburgh Steelers and San Francisco 49ers. This pilot test will allow team physicians to have a player’s entire medical history, including X-rays, test results and exam notes, at quick reference if he is sidelined with an injury. EMRs on electronic tablets for sideline use could be rolled out league-wide based on the results of this pilot program.

Each team’s medical staff this season will be augmented on the sidelines by an unaffiliated neuro-trauma consultant. These consultants will be available to assist team medical staffs in the diagnosis and management of suspected concussions or spine injuries during games.

“Rules make a difference. You can make a sport safer by making rules that make sense, make the game fun and interesting, and at the same time, lower the concussion rate.”

— Dr. Richard Ellenbogen, Co-Chair, NFL Head, Neck and Spine Committee

Neurosurgeon Dr. Joseph Maroon, right, team doctor for the Pittsburgh Steelers, talks with safety Troy Polamalu during a game
(AP Photo/Gene J. Puskar)