



PLAYER HEALTH & SAFETY

MEDICAL SUMMIT





NFL Concussion Protocol

2018

Outline

- Baseline testing
- Game day procedures and checklist
- Booth (3rd) UNC
- Return to play process
 - Including role of INC and neuropsychologist
- Video examples
- “Pearls” for all



Baseline testing

- Annually – traditional neuro exam and NFL SCAT exam
- Neuropsych testing (computerized or pencil/paper) every 3 years
 - Unless had concussion previous season
- Team neuropsychologist (NP) to review all baselines for validity
 - Repeat those that are invalid PRIOR to contact with supervision by the NP



Gameday Changes - 2018

- Keep expanded definition of LOC (includes impact seizure and fencing posture)
- Remove gross motor instability (GMI) as independent criteria; instead, define GMI as judgment of sideline medical staff (team MD and UNC) who observe behavior and also have access to the relevant history and also are able to rule out an orthopedic contribution
 - If GMI felt present then player will go to locker room for exam
- All players undergoing sideline or locker room assessments should have their helmets taken away during the exam to avoid reentry to the game prior to exam completion



Booth UNC

- 3rd UNC to be stationed in the ATC Spotter booth
- Main function is to watch AND listen to the network broadcast to look for concussion signs or other injury behavior that may not have been seen on the video available to sideline
- Communication with sideline UNC and/or medical staff (as well as ATC Spotters)

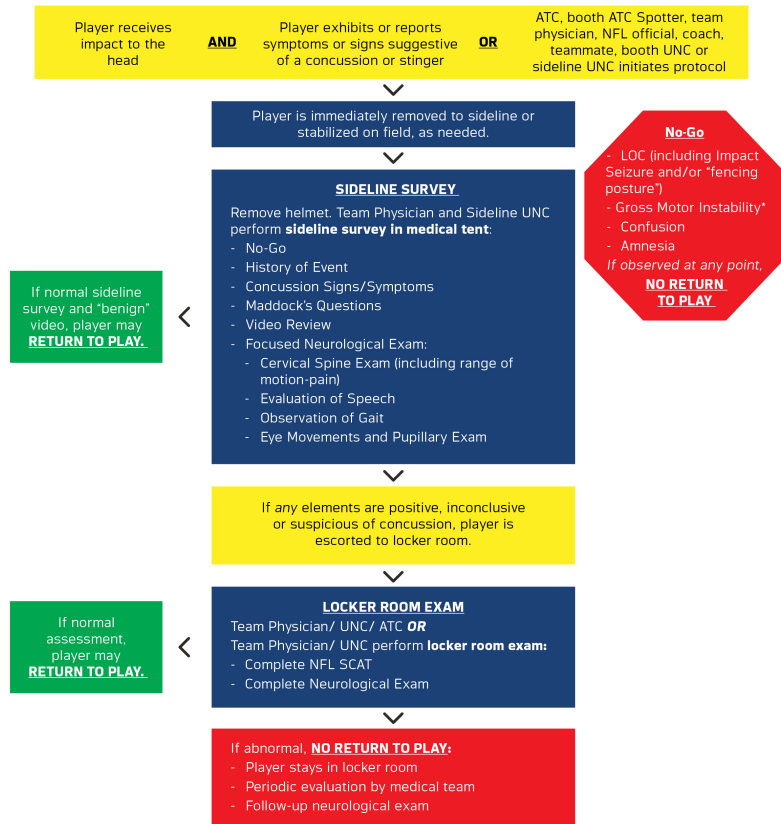


“Close the loop”

- If ATC Spotter or booth UNC notifies the sideline that a concussion exam should be done, the sideline **MUST** confirm the exam at completion (and include disposition) to the calling party



CONCUSSION GAME DAY CHECKLIST



During above checklist, if player demonstrates progressive/ worsening concussion symptoms -> **No Return to Play**

* Determined by team physician, in consultation with the UNC, to be neurologically caused

INITIATING THE PROTOCOL

IF:

A player exhibits or reports signs or symptoms

OR:

A concern is raised by medical personnel, booth ATC spotter, coach, teammate, or official

THEN:

The player must immediately undergo assessment



GO OR NO-GO?

IF:

A player loses consciousness

OR:

He experiences an impact seizure or fencing response

OR:

He displays confusion or amnesia

THEN:

The player is designated “No-Go”



GO OR NO-GO?

IF:

A player demonstrates gross motor instability that is determined by the team physician, in consultation with the UNC, to be neurologically caused

THEN:

The player is designated “No-Go”



SIDELINE SURVEY

- ▶ **Player's helmet is removed**
- ▶ **Performed in the sideline medical tent**
- ▶ **Team Physician and Unaffiliated Neurotrauma Consultant**



SIDELINE SURVEY

- ▶ **History of event**
- ▶ **Concussion signs & symptoms**
- ▶ **Maddock's questions**
- ▶ **Video review**
- ▶ **Focused neurological exam**



SIDELINE SURVEY

IF:

Survey is normal and replay is benign

THEN:

The player may return to play



SIDELINE SURVEY

IF:

Positive, inconclusive, or suspicious of concussion

THEN:

The player is escorted to locker room



LOCKER ROOM EXAM

Player will undergo:

1.

NFL Locker Room Comprehensive Concussion Assessment

2.

Complete neurological exam



LOCKER ROOM EXAM

IF:

Assessment is normal

THEN:

The player may return to play



LOCKER ROOM EXAM

IF:

Diagnosed with concussion

OR:

Displays abnormalities

THEN:

The player must remain in locker room for the rest of the game, with regular follow-up examination



Follow Up Exam

- ALL players who get a concussion eval during the game (whether positive or negative) should be re-evaluated the following day by a member of the medical staff
 - Ideally the same physician who saw them on game day
 - If not possible the member of the staff who does the follow up exam should discuss with the gameday treating physician
 - Looking for emergence of delayed symptoms
 - Exam should consist of the locker room concussion evaluation



Return to Participation

- INC should ideally see the pt in the symptomatic state
 - Game day work as UNC; or in first day or two post injury
 - INC will have access to gameday reports, SCAT5 and baselines
- INC shall communicate with team physician about findings and recommendations



Return to Participation

- NP should see players in person for repeat testing as part of the RTP process
 - Can be done in steps 1, 2 or 3 but MUST be done before any contact
 - Results should be directly communicated to the team physician
- If a contact practice is not available for step 5, then simulated contact should be done



“Pearls”

- “If you see something, say something!”
 - ATC-S, UNC, team staff all should feel empowered to communicate a medical concern about a player and stop the game if needed to make sure a potentially injured player is evaluated
- Take your time on the sideline survey!
 - Players are always in a rush – but be thorough, review the video and discuss together
- Serial sideline exams may be done – and may be a great tool
- No helmets in the tent
- If a disagreement exists, go with the most conservative recommendation





PLAYER HEALTH & SAFETY

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2017 Concussion Program Performance

Allen Sills, MD, FACS
NFL Chief Medical Officer

Head, Neck and Spine Committee

- Panel of experts that advise NFL on all neurologic issues
- Includes representatives from NFLPA
- Per CBA, this group develops and oversees the concussion protocol
- 4 annual meetings to review injury data and trends, protocol performance, emerging research, and clinical concerns
- Also provide oversight to UNC and ATC-S programs



Head, Neck and Spine Committee

- New chairman – Dr. Nick Theodore
 - Professor of Neurosurgery at Johns Hopkins Hospital
 - International expert on brain and spinal trauma
 - Former UNC (Arizona)
- Vice chairman – Dr. Javier Cárdenas
 - Director of Barrow Concussion and Brain Injury Center
 - Chair of Arizona Interscholastic Sport Advisory Cmte
 - Current UNC (Arizona)



Head, Neck and Spine Committee - Membership

- **Voting members:**

- Julian Bailes MD, Ronnie Barnes ATC, Mitch Berger MD, Javier Cardenas MD (Vice Chair), James Collins ATC (PFATS), Rob Heyer MD (NFLPS), Wellington Hsu MD, Russ Lonser MD, Thom Mayer MD (NFLPA), Elizabeth Pieroth PhD, Margot Putukian MD, Nick Theodore MD (Chair)

- **Consultants:** Bob Cantu MD, Hank Feuer MD, Joe Maroon MD



National Football League Head, Neck and Spine Committee's Concussion Diagnosis and Management Protocol: 2017-18 season

Richard G Ellenbogen,¹ Hunt Batjer,² Javier Cardenas,³ Mitchel Berger,⁴ Julian Bailes,^{5,6} Elizabeth Pieroth,⁵ Robert Heyer,⁷ Nicholas Theodore,⁸ Wellington Hsu,⁹ Elizabeth Nabel,¹⁰ Joe Maroon,¹¹ Robert Cantu,¹² Ronnie Barnes,¹³ James Collins,¹⁴ Margot Putukian,¹⁵ Russell Lonser,¹⁶ Gary Solomon,¹⁷ Allen Sills¹⁸

For numbered affiliations see end of article.

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ABSTRACT

One of the National Football League's (NFL) Head, Neck and Spine Committee's principal goals is to create a 'best practice' protocol for concussion diagnosis and management for its players. The science related to concussion diagnosis and management continues to evolve, thus the protocol has evolved contemporaneously. The Fifth International Conference on Concussion in Sport was held in Berlin in 2016, and guidelines for sports concussion diagnosis and management were revised and refined. The NFL Head, Neck and Spine Committee has synthesised the most

formation in 2000 of an international consensus group (Concussion in Sport Group; CISC) dedicated to the establishment of international guidelines for the identification and management of concussion in sports.⁷⁻¹¹

The National Football League (NFL) began its efforts to address SRC with the establishment of the Mild Traumatic Brain Injury Committee in 1994.¹² In 2010 the committee was reconstituted as the Head, Neck and Spine (HN&S) Committee, with co-chairmen H Hunt Batjer and Richard G Ellenbogen. The HN&S Committee published protocols regarding diagnosis and management of concussions in 2013.¹³

Preseason Medical Training

- Summer 2017
 - Team physicians
 - Team athletic trainers (ATCs)
 - Lead Unaffiliated neurotrauma consultants (UNCs)
 - 2 ATC Spotters
 - INCs
- Team neuropsychologists
- Review and update for all gameday protocols
- Emphasis on communication and collaboration



Gameday Concussion Care

- In 2017, we conducted 633 gameday concussion evaluations
 - ~60% were returned to play after clearance
 - 46% had some component of “self report”
- **100% compliance** with immediate electronic tablet documentation of concussion evaluations (both sideline and locker room)
- **100% compliance** with gameday reports from UNC's and ATC Spotters
- **3 protocol reviews**
 - **2 found no violation; in one instance the club was fined for failure to conduct exam on potentially injured player**
- 6 medical timeouts – 5 regular season and 1 preseason
- Last year a total of 6/488 players were diagnosed with concussion AFTER being cleared by an appropriate sideline or locker room exam (similar rate over past 3 years)



SUN HOME NEWS SPORTS OPINION ENTERTAINMENT LIFE MORE SUBSCRIPTION

NFL exec: 'New day has dawned' in concussion-protocol transparency

John Kiyk
More from John Kiyk

Published: January 24, 2018
Updated: January 24, 2018 5:25 PM EDT
Filed Under: Toronto SUN > Sports > Football

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SEAN DE RAY ROBERTSON/HUNT LOOKS AHEAD TO THE 2018 SEASON



The NFL's chief medical officer has had it with critics who contend the league's evolving concussion protocols are insincere, or who suggest the medical professionals who implement them are dishonest.

AROUND THE NFL

No punishment for Panthers' handling of Cam Newton

By Marc Sessler
Around the NFL Writer
Published Jan. 24, 2018 at 10:05 a.m. Updated Jan. 24, 2018 at 01:55 p.m.



Rapoport: Panthers did not violate concussion protocol with Newton

Sports

Texans not punished for Tom Savage concussion, but NFL, NFLPA call outcome 'unacceptable'

By Mark Maske December 29, 2017 Email the author



N.F.L. Changes Concussion Protocol

By Agence France-Presse
Dec. 24, 2017

Several changes to the N.F.L.'s concussion safety protocol, including requiring the presence of an unaffiliated neurotrauma consultant at the league command center for all games, were revealed by league officials on Sunday.

The changes, backed by the N.F.L. and its players union, were agreed upon Dec. 11 by the league's head, neck and spine committee. They went into effect the following weekend.

"We are constantly looking at the protocol and how it's applied and trying to get better. The process happens throughout the season," said Allen Sills, the N.F.L.'s chief medical officer.



Sideline Medical Tent

- Used for ALL sideline concussion evaluations
- Privacy, Distractions
- Was used for injuries other than concussion
- Very positive feedback from physicians, ATCs and players about the use of the tent
- Maintenance issues - process



Pregame Medical Team Meeting

- Important part of the EAP and complies with best medical practices
- Continuing to work to find a better time/location
- Use of script
- Clearly beneficial in several severe trauma situations
- Equipment testing
- Referee participation



Engagement Around Rules

- Health & Safety now regularly invited to meet with Competition Committee who is committed to player safety
 - Includes the Madden Player Safety Advisory Committee
 - Using data-driven evidence to recommend changes in style of play that will need to be implemented through rules changes, coaching, and education of all stakeholders





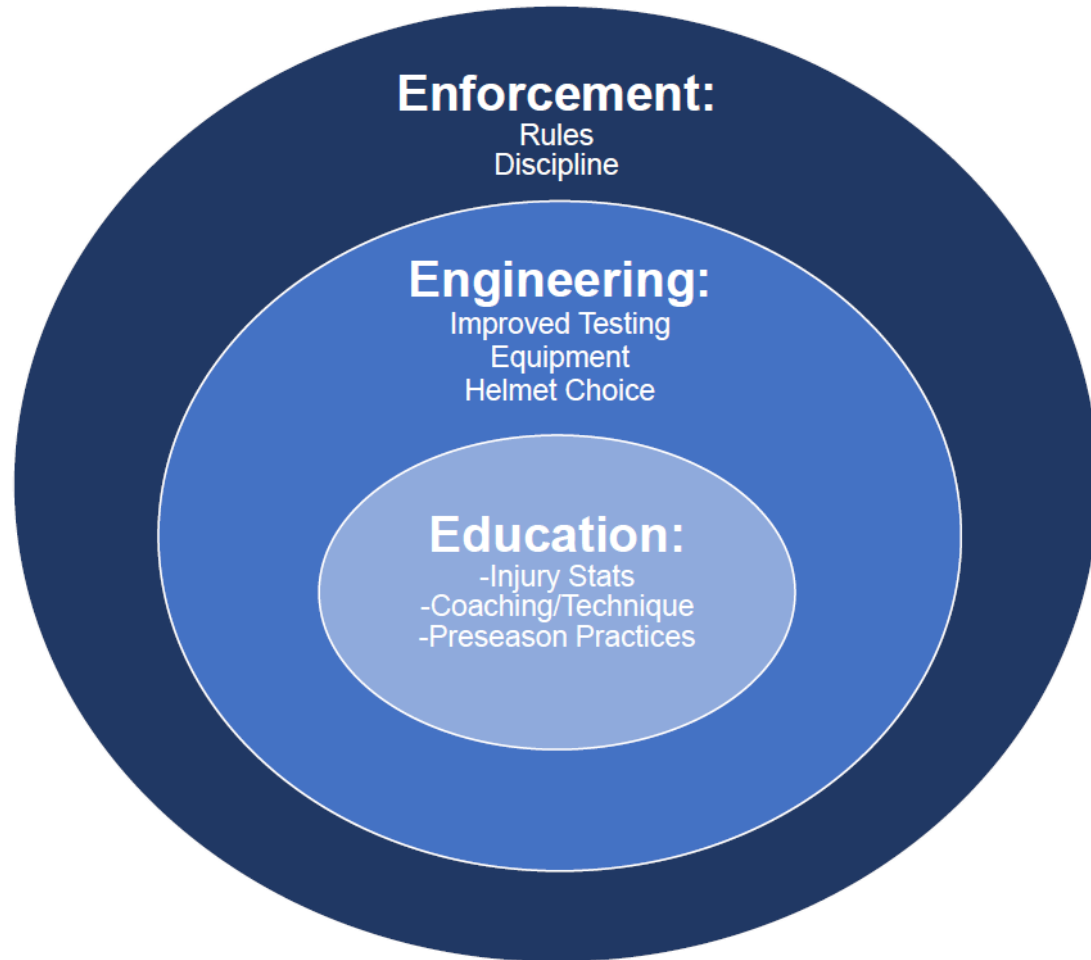
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Concussion Reduction Plan

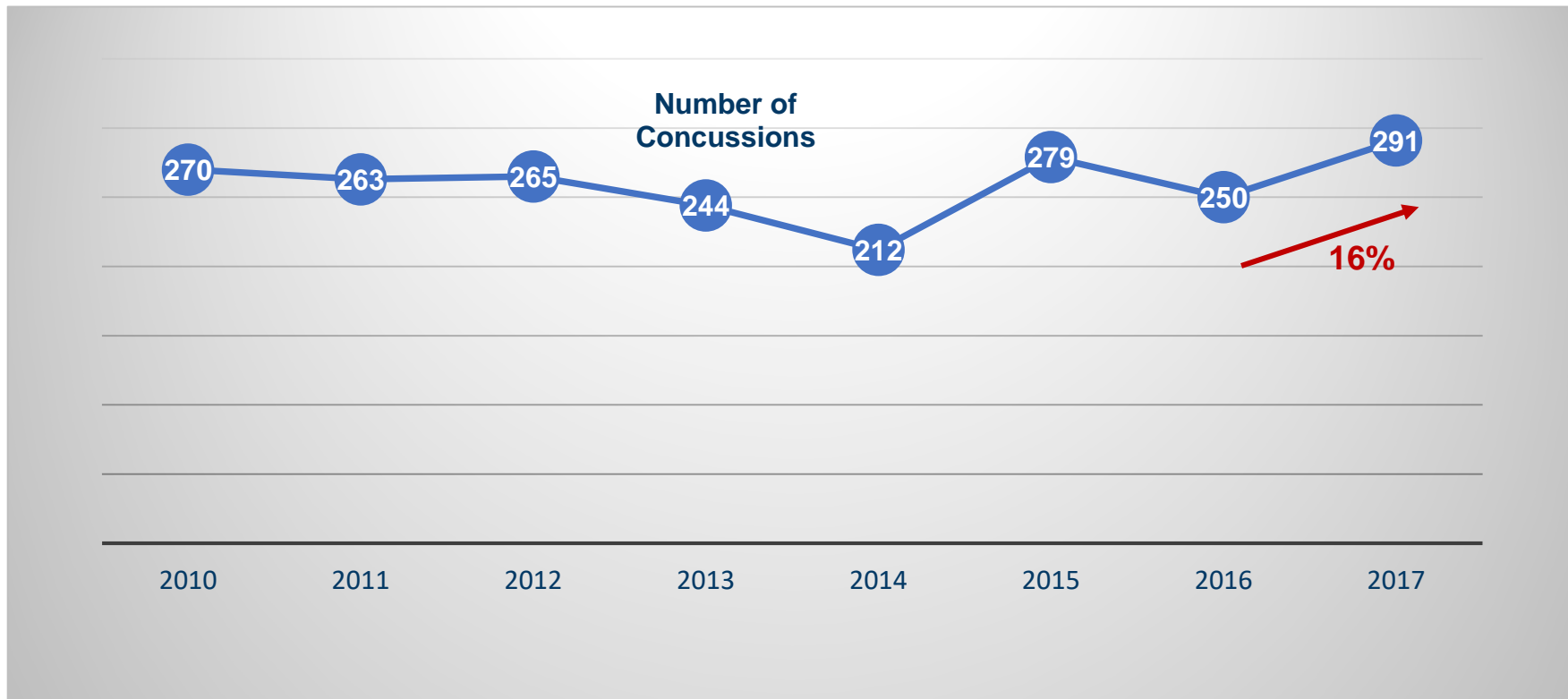
Allen Sills, MD, FACS
NFL Chief Medical Officer

Injury Prevention Strategy



Concussions Overall Increased 16% in 2017

Full season; 2010-2017

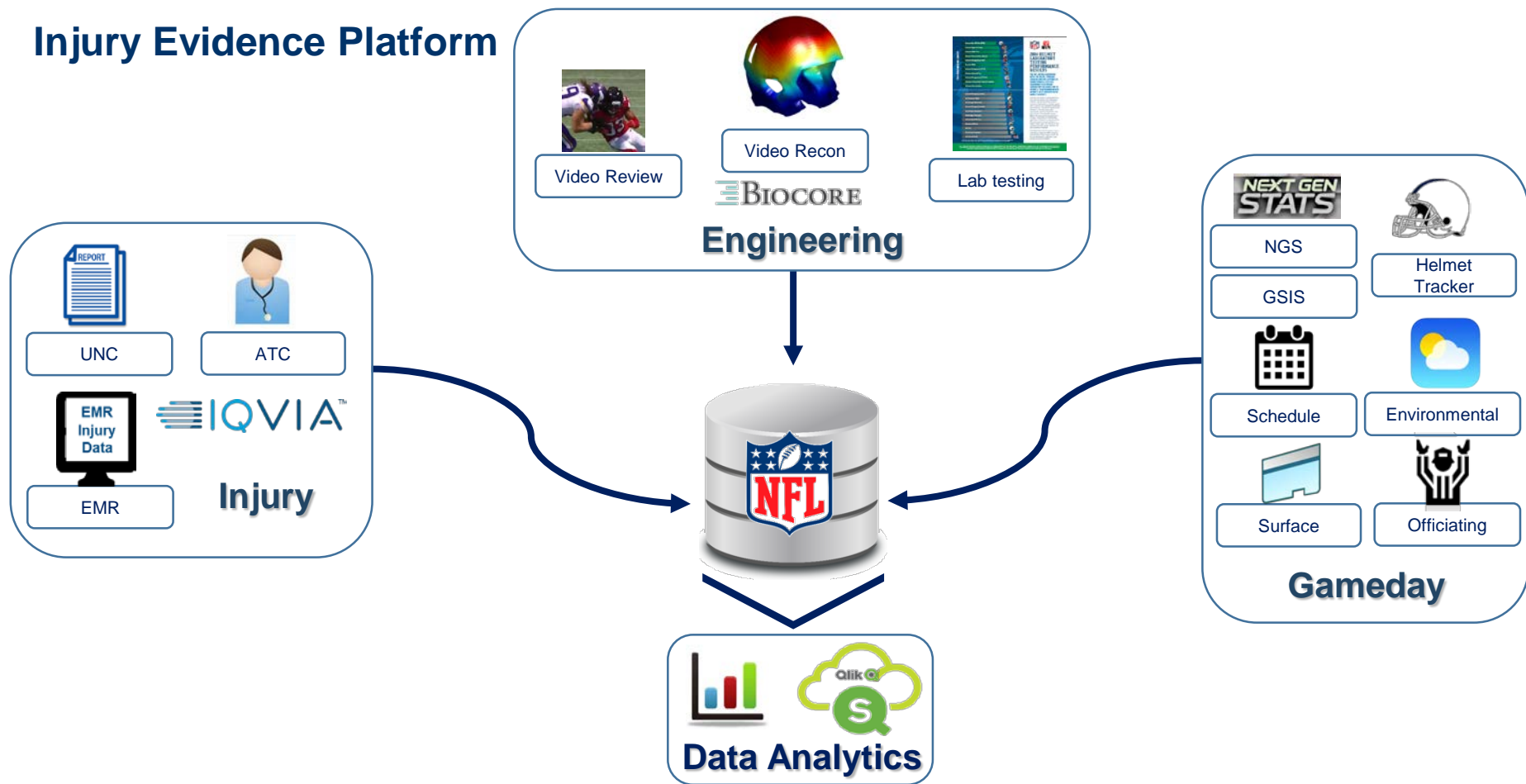


HOW CAN WE REVERSE THIS TREND?

- How can we IMMEDIATELY begin to significantly reduce the number of concussions suffered by NFL players?
 - What are the major causes of these concussions?
 - What steps could prevent these causes?



Injury Evidence Platform

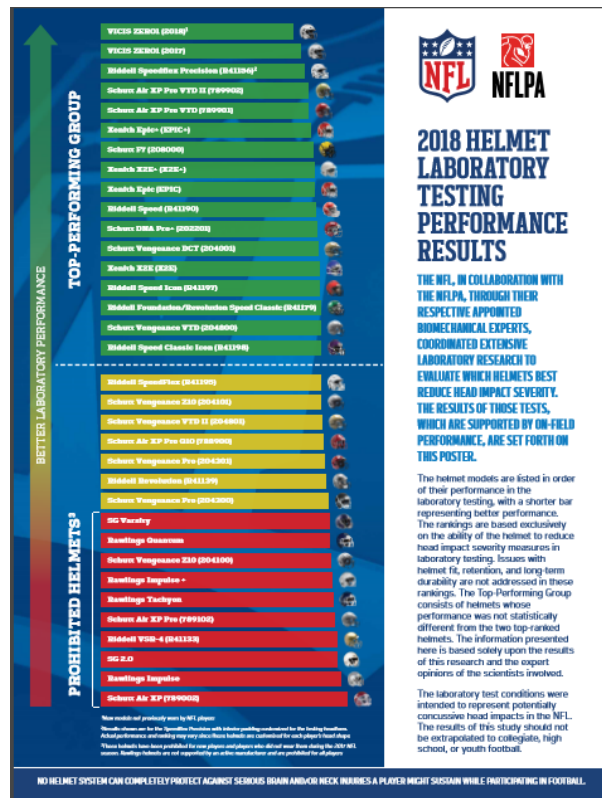


2018 NFL CONCUSSION REDUCTION PLAN

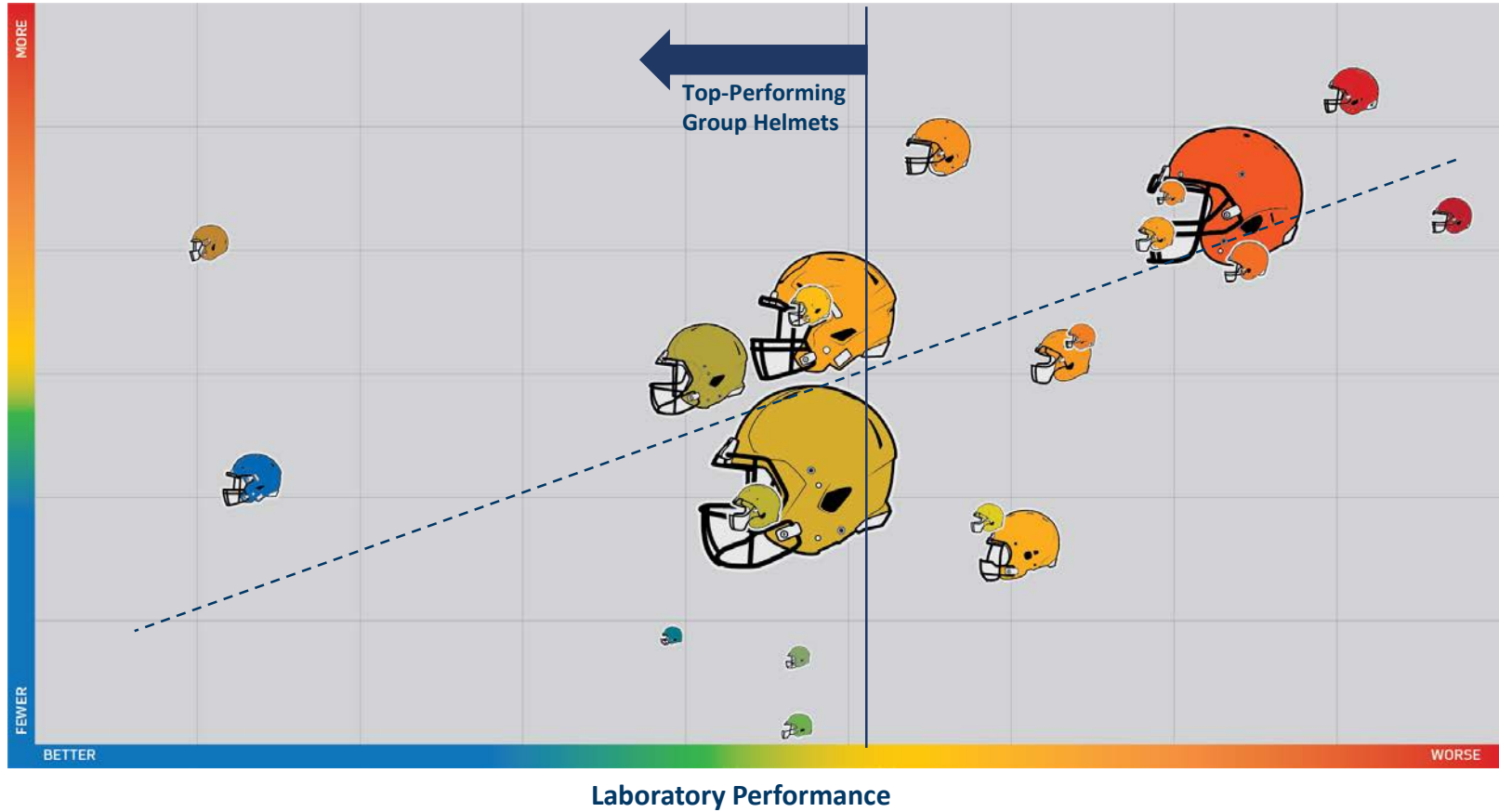
- Goal is significant reduction in concussion incidence in the 2018 season
- 3 parts:
 - Increase number of players wearing better helmets
 - Decrease pre-season practice concussions
 - Remove dangerous style of play



Part 1: Helmet Performance



Concussions per 10,000 plays



Part 2: Preseason Practice Concussions

Number of concussions; 2012-2017

Year	Preseason		
	Practice	Game	Total
2012	42	43	85
2013	39	38	77
2014	42	41	83
2015	29	54	83
2016	26	45	71
2017	45	46	91

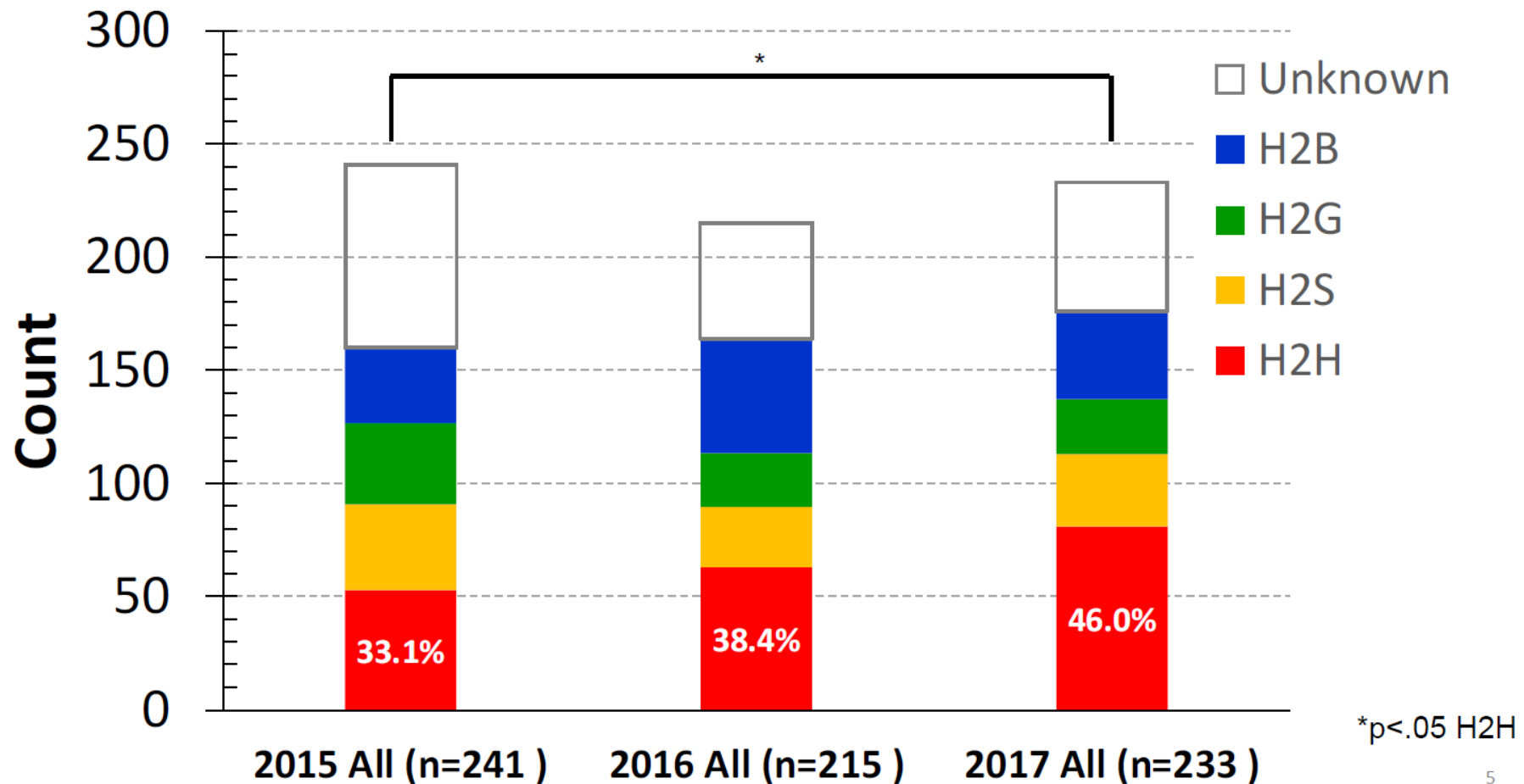




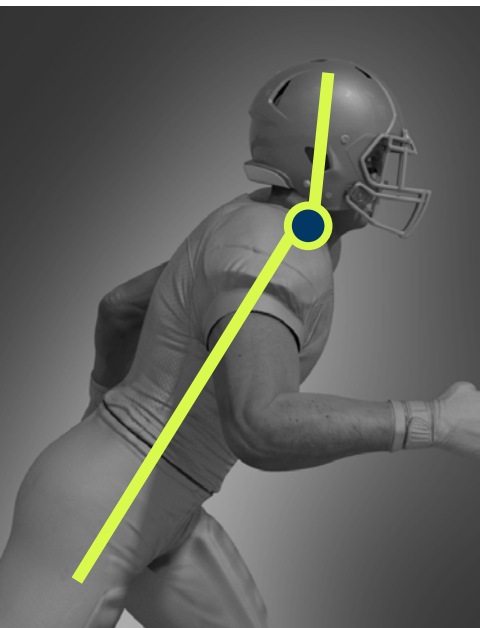
Part 3:

**STYLE OF PLAY AND
CONCUSSIONS**

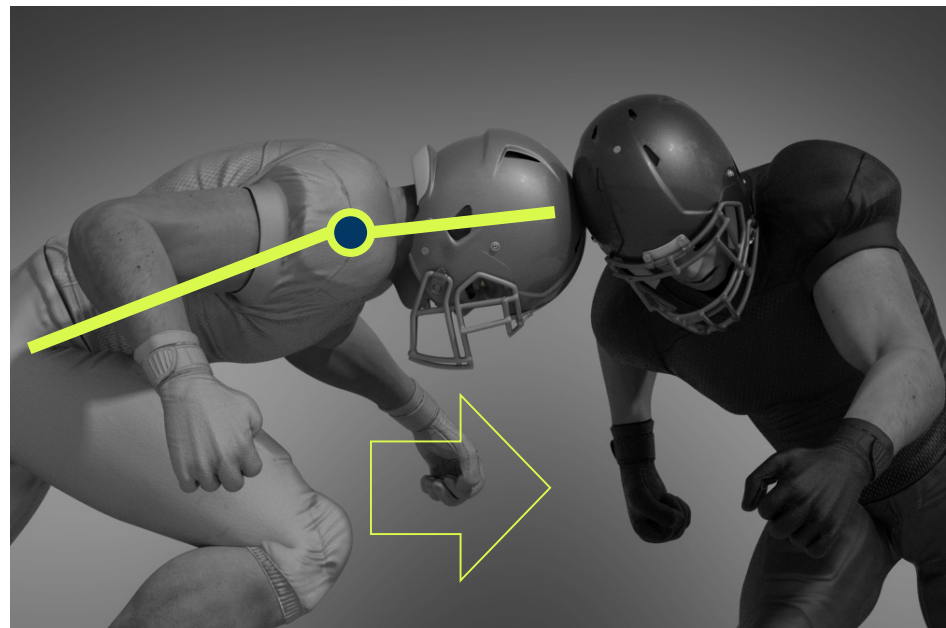
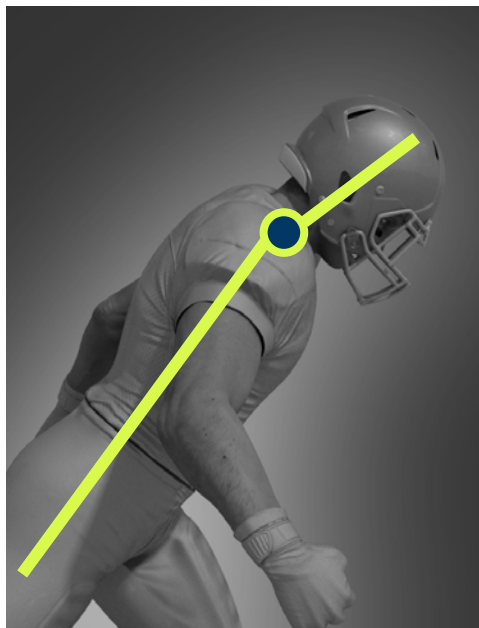
Concussion Impact Source: 2015-2017 Games



Biomechanics of Lowering the Head



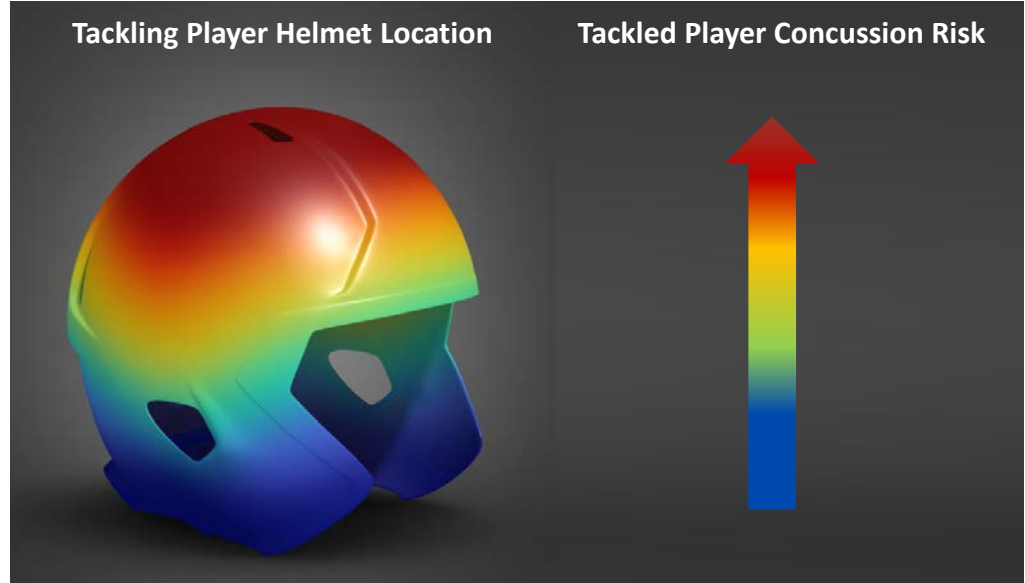
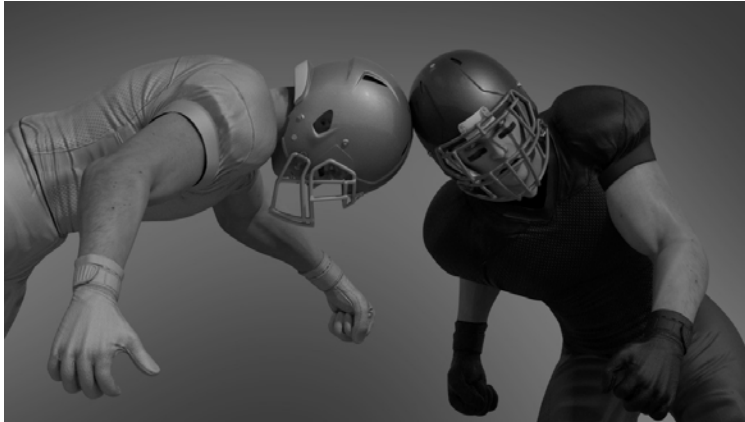
Head-Spine-Torso Alignment



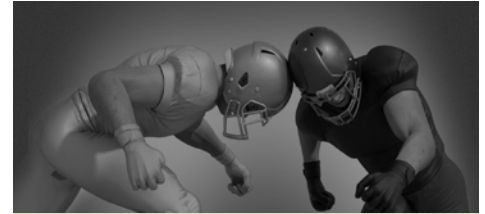
Upper Body Alignment with Closing Velocity

Biomechanics of Lowering the Head

Head-Spine-Torso Alignment
Upper Body Alignment with Closing Velocity



Upper Body Alignment



Peak Neck Force

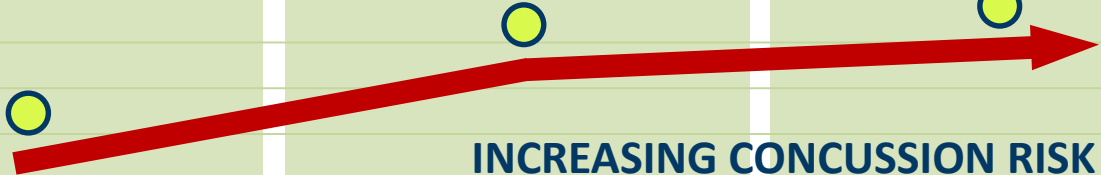
Tackling Player



INCREASING NECK INJURY RISK

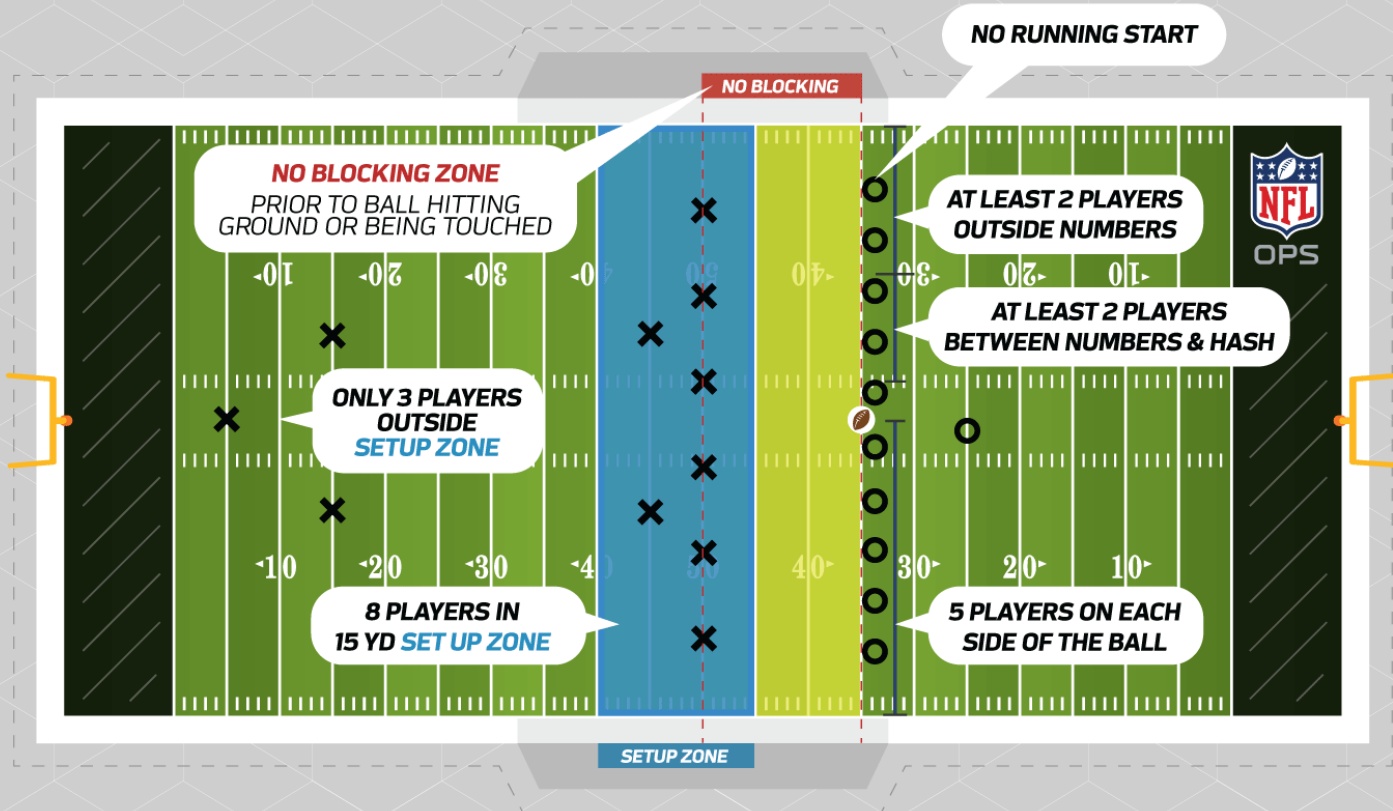
Peak Head
Angular Velocity

Tackled Player



INCREASING CONCUSSION RISK

NEW KICKOFF RULES



Concussion Reduction Strategy: Summary

Education, Engineering and Enforcement are the three components for injury prevention programs in any industry.

EDUCATION – The causes of concussion, the helmets players wear and the preseason practice concussion data are all examples of information that must be shared across the league to stimulate change and enhance health and safety.

ENGINEERING – Laboratory testing of helmets and on-field helmet performance can be roughly correlated. Moving players from poorly performing helmets to better performing helmets will decrease injury risk. The development of new, better performing helmets will take more time, but is the goal of the ongoing engineering effort.

ENFORCEMENT - When players lower their head before contact, they increase the risk of injury to themselves and to others. Through analysis of three years of concussion causing hits, we observed this behavior occurring repeatedly, including at least 57 times in injurious plays in 2017 games.





PLAYER HEALTH & SAFETY

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Player Health & Safety Communications Media Engagement Policies

Jill Pike

VP, NFL Communications

Game Day Media Policy

“Except as required as part of (INSERT GDA POSITION) services contemplated hereby, (INSERT GDA POSITION) are prohibited from speaking to any third parties (including but not limited to the media) in or about their role, activities or interactions as an (INSERT GDA POSITION).”

“Any requests from third parties made to the (INSERT GDA POSITION) should be referred to the NFL public relations office.”



When in Doubt – Reach Out

- **Process**

- What's the request?
- HIPAA / privacy concerns
- Are we correcting or educating?

- **Preparation**

- What's the message you want to drive
- On the record vs. on background
- Coordination, as needed, with NFL, NFLPA, NFLPS, Clubs

- **Practice**

- Study up on the reporter and outlet
- Run through your talking points and tough q/a



Moving Forward

Major outlets

Local papers

University newsletters / papers

Op-eds

Hospital or institution profiles

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