



NATIONAL FOOTBALL
FOUNDATION

PRESENTS

ANNUAL REPORT ON FOOTBALL

2024-2025 SEASON

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“The future for football remains strong at every level of the sport. It is inclusive, builds community and provides many educational and leadership opportunities. **Simply put: it is the greatest of all American sports.”**



A handwritten signature in black ink that reads "Steve J. Hatchell". The signature is written in a cursive, flowing style.

STEVE HATCHELL

President and Chief Executive Officer

National Football Foundation & College Hall of Fame, Inc.



GROWTH OF THE GAME

Football is the most popular sport in the United States.

Football provides many benefits to those who play through association with a team or organization and as part of a community.

Football provides opportunities for band members, cheerleaders, coaches, the community, managers, media, parents, players, referees, trainers, videographers, and many more.

Over the years, many organizations (at all different levels) have worked to make the game better and will continue to do so.

Women's involvement in football has increased significantly.

Rules changes, guidance issued on coaching techniques, and tech advancements at all levels have helped make the game better.

3.6 MILLION
YOUTH PLAYERS

1.07+ MILLION
HS PLAYERS

81,000+ COLLEGE PLAYERS

933 colleges and universities at all levels

82% graduation success rate of FBS student-athletes (70% general student body)

105 colleges and universities
ADDED PROGRAMS SINCE 2008

12 Colleges & Universities
Will Add Football Programs in 2024 and 2025

GROWTH OF THE GAME

INSIGHTS

YOUTH STATS

- More than 1.07 million players (est.) in high school.¹
- 3.6 million youth players (est.)²

COLLEGIATE STATS

- 774 Colleges & Universities Playing Football at All Levels (FBS, FCS, Div. II, Div. III, NAIA and more)
- 81,000(+) College Football Players in NCAA & NAIA
- 105 Colleges & Universities Added Football Programs since 2008
- 12 Colleges & Universities Will Add Football Programs in 2024 and 2025
- 16 Colleges & Universities Offering Sprint Football
- 20 Colleges & Universities Offering Women's Flag Football as a Varsity Sport
- 123 Junior Colleges Offering Football

EDUCATIONAL OPPORTUNITIES PROVIDED

- 82% graduation success rate of Football Bowl Subdivision student-athletes. Compared to 70% federal graduation rate of general student body.³
- NCAA Divisions I and II schools provide more than \$3.6 billion in athletics scholarships annually to more than 180,000 student-athletes.⁴
- Former student-athletes are significantly more likely to be thriving in four out of five areas of well-being (purpose, social, financial, community and physical).⁵





INCREASED WOMEN'S INVOLVEMENT IN THE GAME

The presence of women in football has steadily increased at every level of the game.

NFL

- In 2023, a record high 42.5 percent of employees in the NFL League Office were female, a modest increase from 41.3 from 2022.⁶
- Super Bowl LV had a record-breaking three women on the field with Lori Locust and Maral Javadifar coaching for the Tampa Bay Buccaneers, while Sarah Thomas became the first female to officiate the championship game.⁷
- Also in 2023, 223 women worked in full-time coaching or football operations roles in the NFL, up from 199 in 2022, and a 141% jump since 2020. Ten women held full-season coaching positions, the most in history, and 11 organizations had women in coaching roles during training camp.⁸

PRO WOMEN LEAGUES

- The Women's Football Alliance had 69 teams compete in three divisions in 2024 with at least one more team coming on board in 2025. Once again in 2024, the Championship weekend of its four divisions were staged at Tom Benson Hall of Fame Stadium in Canton, Ohio, with the Pro division final televised live on ESPN2.⁹
- WFA International is the Women's Football Alliance's effort to grow women's tackle football throughout the world. WFA has implemented international camps and competitions, player exchange programs, international partnerships, coaching alliances, and Sister Alliance mentorship programs.¹⁰
- In addition to its tackle football competition, the Women's National Football Conference now also competes in flag football for women 18+ in select regions. Its 2024 Championship event, the WNFC IX Cup, was again held at the Dallas Cowboys' world headquarters in Frisco, Texas.¹¹⁻¹²

INCREASED WOMEN'S INVOLVEMENT IN THE GAME [CONT.]

COLLEGE

- The National Junior College Athletic Association (NJCAA) completed its 2024 women's flag football season with a post-season Invitational championship at Atlanta's Mercedes-Benz Stadium. Florida Gateway College won the title for a second straight season.¹³
- 22 NAIA institutions competed in the 2024 season, up from 15 in 2023.¹⁴ Ottawa College of Kansas won its fourth straight title in NAIA flag football.¹⁵
- NCAA Division 3 Atlantic East Conference will begin competing in Spring of 2025 with Centenary, Cabrini, Immaculata, Marymount and Neumann Universities all on deck to compete.¹⁶ In 2026, NCAA Division 2 Conference Carolinas will open play for women's flag football with Ferrum, Emmanuel, Chowan, King, Lees-McRae and Mount Olive competing.¹⁷
- Mexico's gender barrier was broken as kicker Andrea Martinez became the first female to play in the top men's amateur league for American football.¹⁸
- Haley Van Voorhis, 2021 defensive back at Division III Shenandoah University, became the first female to play an NCAA football position other than a kicker or punter.¹⁹
- Sarah Fuller, Vanderbilt University: first to play in a Power 5 Conference in 2020.⁷
- Toni Harris, Central Methodist University (MO): first to accept a scholarship to a four-year college in 2019.²⁰
- Heather Marini: first Division I position coach in 2020.²¹
- Callie Brownson: first full-time Division I coach in 2018.²²

HIGH SCHOOL/YOUTH

- Girls participating in all four versions of high school football (11, 9, 8 and 6-player tackle) increased 73 percent from 2018-19 (the last pre-Covid Participation survey of the NFHS) to the 2023-24 season. Over the same time span there has been a 283 percent growth in girls flag football; from 11,209 to 42,955.²³⁻²⁴
- In the 2024-25 school year, there will be 12 states that sanction girls' high school flag football: Alabama, Alaska, Arizona, California, Colorado, Georgia, Florida, Hawaii, Illinois, Nevada, New York and Tennessee. In September, the PIAA made Pennsylvania become the 13th state to sponsor girls high school flag football, the sixth in the calendar year of 2024.²⁵⁻²⁶
- The NFL front office and all 32 clubs are investing resources to grow flag, from backing local girls' leagues to launching scholarship programs. In the short term, it projects 750,000 players involved in NFL Flag leagues by 2024. On the high school front, the league and its allies are advocating for states like Texas, Virginia and Ohio to make flag football an official varsity sport.²⁷

- Laguna Beach (CA) High School's Bella Rasmussen in 2022 became the first girl in California history to score two touchdowns in one varsity tackle game, scoring four (4) overall.²⁸
- Chicago witnessed what is believed to be the first varsity high school game featuring a head-to-head matchup of black female head coaches competing on opposing sidelines.²⁹
- Females are key team contributors achieving high honors, including all-state recognition of kickers in Colorado and Michigan (in 2021).³⁰⁻³¹
- The Utah Girls Tackle Football league began in 2015 with 50 players and is the first of its kind. The League has since grown to 600 players and 34 teams.

ATTENDANCE & VIEWERSHIP

- The average crowd size of an NFL game during the 2023 regular season was 69,524, the highest number since the figure began being tracked in 2004. Total tickets sold increased from 18.8 million in 2023 to 18.9 million.³²
- College football average attendance increased in 2023 to 41,840. Though a very slight increase, it marked back-to-back seasons of average FBS attendance improvement since 2007 to 2008.³³
- Of the top 100 most watched TV shows of 2023, 93 of those were NFL broadcasts, up from 82 in 2022 and 75 in 2021. Of the remaining 7 programs in the top 100, one was the Super Bowl "lead-out" show, and 3 were college football games.³⁴
- NFL regular-season games in 2023 averaged 17.9 million viewers, tied for second highest since averages were first tracked in 1995. It's an increase of 7 percent from 2022.³⁵
- Week 1 of the 2024 NFL season averaged 21 million viewers per game, the highest on record, and a 12 percent increase from Week 1 of 2023. In all, 123 million people saw at least part of one game.³⁶
- Super Bowl LVIII was the most-watched telecast in history with 123.4 million average viewers across all CBS/Paramount and NFL platforms. Univision averaged more than 2.2 million viewers, the highest Super Bowl viewership for a Spanish-language network.³⁷
- There were 66 college football games in 2023-24 that reached more than four (4) million viewers, a nearly 50 percent increase from 2022-23. The regular season alone saw 50 games reach the 4 million plateau, topping the entire 2022-23 season including bowls and playoffs with 45.³⁸
- ESPN platforms scored record viewership in its presentation of the College Football Playoff, averaging 23.6 million viewers for the three games, a 15 percent increase from the previous season. ESPN's full slate of 40 total bowl games averaged 4.6 million viewers, a 5 percent increase from last year.³⁹

GROWTH OF THE GAME

INSIGHTS

MISC.

- The USA Men and Women's Flag Football National Team defended its crown at the 2024 International Federation of American Football (IFAF) Flag Football World Championship in Lahti, Finland in August. A total of 32 countries from six continents were represented in the global championship event.⁴⁰⁻⁴¹
- The NFL has helped turn the nation's attention towards flag football's debut in the 2028 Olympics with an ad campaign that launched during the 2024 Paris Olympics.⁴²
- After leading Mexico to the 2022 Flag Football World Championship, Diana Flores was featured in a viral Super Bowl commercial in 2023 promoting the game and became the first flag football player of any gender to have artifacts displayed at the Pro Football Hall of Fame in Canton, Ohio.⁴³
- The United Football League (UFL) will return for its second season in the spring of 2025 with the same 8 teams and markets from 2024. The UFL is the rebranded merger of the former USFL and XFL.⁴⁴
- EA Sports' College Football 25 relaunched after a nine year hiatus, reaching \$500 million in sales barely two weeks after its release.⁴⁵
- The NFL announced a VR football game set to release each year for Meta Quest and PlayStation VR. The annual franchise is being made in partnership with StatusPRO, a sports technology company whose virtual and augmented reality products are used by actual NFL teams.⁴⁶
- The Arena Football League made a return, complete with its first Arena Bowl championship since 2019, playing at American Dream Mall in New Jersey. Former NFL coaching great Jeff Fisher was hired as the AFL's Commissioner.⁴⁷





PARTICIPATION

PARTICIPATION INSIGHTS

**Exhibit 1: National Federation of High School Associations:
Total Participation in High School Football¹**

	2015-16	2016-17	2017-18	2018-19	2021-22	2023-24
Boys 6 Man	4,438	4,546	5,102	5,275	6,696	6,806
Boys 8 Man	19,195	19,514	19,554	20,954	20,243	26,297
Boys 9 Man	5,310	5,278	4,971	4,992	7,996	5,845
Boys 11 Man	1,080,693	1,057,382	1,036,842	1,006,013	973,792	1,031,508
Boys Tackle Total	1,109,636	1,086,720	1,066,469	1,037,234	1,008,727	1,070,456
Boys Flag	1,226	1,210	1,144	945	685	999
Boys Total	1,110,862	1,087,930	1,067,613	1,038,179	1,009,412	1,071,455
Girls Tackle	2,120	2,143	2,401	2,604	3,633	4,295
Girls Flag	10,867	11,254	11,007	11,209	15,716	42,955
Girls Total	12,987	13,397	13,408	13,813	19,349	47,250

**Exhibit 2: National Federation of High School Associations:
High School Football Programs¹**

	2015-16	2016-17	2017-18	2018-19	2021-2022	2023-24
Boys 6 Man	250	259	317	373	394	374
Boys 8 Man	834	841	847	946	1,069	1,143
Boys 9 Man	265	258	243	244	327	289
Boys 11 Man	14,047	14,099	14,079	14,247	13,733	13,788
Boys Tackle Total	15,396	15,457	15,486	15,810	15,523	15,594
Boys Flag	69	76	56	33	40	51
Boys Total	15,465	15,533	15,542	15,843	15,563	15,645
Girls Tackle	613	706	735	1,998	2,584	2,250
Girls Flag	359	420	350	378	662	1,777
Girls Total	972	1,126	1,085	2,376	3,246	4,027

PARTICIPATION INSIGHTS

Exhibit 3: SFIA Data Trends from 2023 Topline Report

FOOTBALL PARTICIPATION											
	Definition	2017	2018	2019	2020	2021	2022	1-year change	3-year change	1-year AAG	5-year AAG
FLAG FOOTBALL											
Total participation		6,551	6,572	6,783	7,001	6,889	7,104	3.1%	4.7%	1.6%	1.7%
Casual	1-12 times	3,572	3,573	3,794	4,287	4,137	4,573	10.5%	20.5%	6.7%	5.2%
CORE	13+ times	2,979	2,999	2,989	2,714	2,752	2,531	-8.0%	-15.3%	-5.3%	-3.1%
CORE: Age 6-17	26+ times	1,565	1,578	1,590	1,446	1,574	1,552	-1.4%	-2.4%	-0.6%	0.0%
TACKLE FOOTBALL											
Total participation		5,224	5,157	5,107	5,054	5,228	5,436	4.0%	6.5%	2.1%	0.8%
Casual	1-12 times	2,145	2,258	2,413	2,390	2,642	3,120	18.1%	29.3%	9.2%	8.0%
CORE	13+ times	3,078	2,898	2,694	2,665	2,586	2,316	-10.4%	-14.0%	-4.8%	-5.5%
CORE: Age 6-17	26+ times	2,427	2,353	2,311	2,226	2,110	2,088	-1.0%	-9.6%	-3.3%	-2.9%
TOUCH FOOTBALL											
Total participation		5,629	5,517	5,171	4,846	4,884	4,843	-0.8%	-6.3%	-2.1%	-2.9%
Casual	1-12 times	3,332	3,313	3,065	2,990	3,171	3,201	0.9%	4.4%	1.5%	-0.7%
CORE	13+ times	2,297	2,204	2,105	1,856	1,713	1,642	-4.1%	-22.0%	-7.9%	-6.4%

NFHS Announces Football Participation Numbers Have Increased for Second Consecutive Year

- 11-player football remained the most popular boys sport and registered an increase for the second consecutive year from 1,028,761 to 1,031,508.¹
- There also was an increase in 8-player football participation from 23,812 to 26,420.¹
- The number of participants in girls flag football more than doubled from 2022-23 to 2023-24. A total of 42,955 girls participated in flag football in 2023-24 (+105% since previous season and +173% since 2021-22).¹
- There also was an increase in the number of girls competing on 11-player football teams from 3,654 to 4,094.¹
- Including boys and girls competitors in 6-, 8-, 9- and 11-player football, and girls and boys participants in flag football, the overall football total for 2023-24 was 1,118,705 – an increase of 28,825 from 2022-23.¹





SAFETY

FOOTBALL IS NOT THE MOST DANGEROUS SPORT

- As it relates to sports injuries, according to the National Safety Council (NSC), in 2023 basketball led the list of organized team sports for the 11th consecutive year. With 332,391 injuries, basketball actually ranked third overall behind Exercise and Bicycling (both more than 400,000), with football ranking fourth with 263,585.¹
- In 2023, women's gymnastics had the highest rate of preseason concussions of all NCAA sports, according to an NCAA study performed by the University of Michigan. Women's gymnasts experienced concussions at a rate 50 percent higher than football players.²
- Overall injuries were down in the NFL significantly in 2023 from 2022, as players missed 700 fewer games due to injury.³
- Hockey has the highest rate of concussion-related injuries, followed by snowboarding and football.²
- Sports-related injuries have declined over the last several years. Football injuries have decreased by more than 30% since 2017.⁴
- Injury risk associated with high school football is at its lowest in history in 2019.⁵
- A study from the University of Colorado Boulder found no link between youth contact sports and future brain and mental health problems.⁶
- A study of children's (age 5 to 14) sports and recreation by the Stanford Children's Orthopedic and Sports Medicine Center, which includes football, concluded that almost 50% of head injuries sustained in sports and recreation activities occur during bicycling, skateboarding or skating incidents.⁷





RULE CHANGES, GUIDANCE & COACHING ADVANCEMENTS

Over the years, rules changes have been implemented to make the game better.

In 2019, Pop Warner became the first national football program at any level to eliminate the three-point stance in further efforts to make the sport safer for young players (for its three youngest divisions). Additionally, Pop Warner's 2016 rule banning kickoffs in its three youngest age groups was introduced at its Pee Wee division in the 2019 season. Instead of kicking the ball off following a score or to start a half, it will be placed at the 35-yard line.¹

NFHS has recommended more than 130 rules changes, or new rules, regarding players' health and safety from 1982-2022 and nearly 30 from 2015-2022.² Member associations of the NFHS independently make decisions regarding compliance with or modification of these playing rules for the student-athletes in their respective states.

- Since 2002, the NFL has made over 50 rules changes to eliminate potentially dangerous tactics and reduce the risk of injuries. More than 80 changes have been made since 1985.³
- In college football since 2008, an estimated 40 rules changes, or new rules, have been implemented regarding players' health and safety, or to affect pace of play to reduce the amount of contact players are exposed to.⁴⁻¹⁸

Almost every state high school athletics association has proactively, or by state legislated law, put limits on full contact during football practices and limited exposure to heat exertion. Studies done since these limits have been put in place (or just before) show a reduced number of injuries, concussions and heat-related illnesses.

- All 50 states and the District of Columbia passed legislation between 2009 - 2015 targeting brain injuries and concussions in youth sports.¹⁹
- High school athletics associations in 46 of 50 states began the 2016 football season with limits on full contact practices in high school football. Examples:
 - **California-2014:** passed a law limiting middle and high school to two full contact practices per week, each no more than 90 minutes long during the 30-day period before and during the regular season. It also banned all off-season practice contact entirely.²⁰
 - **Wisconsin and Michigan-2014:** prohibited contact, at some level, during football's preseason and regular season.²¹⁻²²
 - **Florida-2016:** limits contact during regular and postseasons to no more than three days per week, 30 minutes per day and 80 minutes per week. Also bans contact on more than two consecutive days.²³
 - **Pennsylvania-2016:** limits contact in practice to 60 minutes per week.²⁴
 - **New Jersey-2019:** limits full contact drills in practice to 15 minutes per week, down from 90.²⁵
 - **Michigan-2019:** no more than six hours of full-pads collision contact per week during the preseason, no more than 30 minutes of collision contact during the regular season.²⁶
 - **Florida-2019:** an independent foundation is educating athletes, trainers and coaches on how to protect from abdominal injuries.²⁷

RULE CHANGES, GUIDANCE & COACHING ADVANCEMENTS

- The NFL has asked teams to stop the Oklahoma drill, pitting blocker vs. defender in a battle-type atmosphere surrounded by teammates.²⁸
- The NCAA Division I Council made changes to football preseason practice to protect the health and safety of student-athletes while providing the opportunity to prepare them for the football season.²⁹
 - Prohibiting athletic activities, such as drills that encourage or create straight-line contact, as specified in policies and procedures established and maintained by the Division I Football Oversight Committee and the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports. This prohibition applies year-round, not just during the preseason.
 - Reducing the maximum number of contact practices from 21 to 18 and restricting full-pads days to nine (9).
 - Increasing the acclimatization period from five (5) to seven (7) days.
 - Additional limits on full-contact practices, including no more than two consecutive days of full-contact practices, a total of no more than 75 minutes of full contact within any practice session and no more than two scrimmages in the preseason.

Maryland passed the Jordan McNair Safe and Fair Play Act, which gives student-athletes certain health-related protections, including the right to speak up for themselves when they are exhausted or overheated and remove themselves from competition until they are ready to return.³⁰

A bill brought forth by U.S. Rep. Sheila Cherfilus-McCormick, the Access to AEDs Act, would equip all U.S. schools, and provide training, for administering life-saving treatment to athletes, students and others who go into sudden cardiac arrest.³¹ An updated bill was introduced by U.S. Senator Cory Booker in March of 2023. The bill requires the Department of Health and Human Services to award grants to local educational agencies (LEAs), including public charter schools operating as LEAs under state law, to promote student access to defibrillation in elementary and secondary schools.³²

Studies show positive signs:

- Published results from the University of Wisconsin-Madison in 2015 reported that concussion rates during the 2014 high school football season decreased concussions by 57% (compared to previous two seasons) after practice contact limits were put in place by the state association.³³
- A 2016 study showed that a 2014 rule change in Michigan limiting full-contact high school football practices to no more than two days per week reduced head-impact exposure for all players by an average of 42%, with the largest reduction occurring among linemen.³⁴
- 2019: University of North Carolina-Chapel Hill research showed “strong evidence” that rates of heat-related illnesses such as heat strokes were cut in half in states that mandated guidelines to reduce exertion-related heat illnesses.³⁵
- In 2024, the CDC found conclusively that flag football is safer than tackle football. In studies of youth football players, tackle football athletes had 15 times more head impacts than flag football athletes.³⁶



- The NCAA-U.S. Department of Defense Concussion Assessment, Research and Education Consortium is the largest concussion and repetitive head impact study in history. The project, funded by the NCAA and DOD, launched in 2014 and now includes participants on 30 campuses across the country.³⁷
 - The 6th NCAA-DOD Grand Alliance Concussion Conference was held on April 24, 2024 at the University of Michigan, discussing new findings and innovations related to traumatic brain injury detection, treatment and rehabilitation.³⁸
 - The initial phase of the study focused on the acute effects of concussion by evaluating concussed study participants with a sequence of tests in the immediate hours, days and weeks after the injury, and comparing the results with baseline tests administered at the start of the study.
 - The second phase of the study, initiated in the winter of 2018, includes comprehensive testing of the participants when they leave college and up to four years after their collegiate sports or service academy career has ended. This new phase will enable researchers to study the intermediate and cumulative effects of concussion and repetitive head impact exposure. Importantly, researchers hope — for the first time — to differentiate between the effects of concussion and repetitive head impact from sports participation with no history of either concussion or repetitive head impact exposure.
 - While numerous studies have come out regarding the research over the last few years, some key findings include:
 - *Concussions in collegiate football are managed more conservatively than ever. The average time between injury and return to play in the original NCAA Concussion Study was 6.7 days (1999-2001). In the CARE study, that figure increased to 16.1 days (2014-2017).*³⁹
 - *The rate of same season repeat concussion in the CARE study was 41% lower than in the earlier NCAA Concussion Study. Further, among those who suffered a repeat concussion, the average interval between injuries in CARE was 50.8 days longer.*⁴⁰
 - *Preliminary evidence suggests that age of first exposure to contact sports is not associated with neurocognitive impairment in college athletes. Female and male collegiate athletes take approximately the same amount of time to recover from a concussion, with subtle differences in recovery time depending on the type of sports being played and the division level.⁴³ The findings suggest that equity in access to sports medical care among college athletes may contribute to these similar outcomes.*⁴¹
- College athletic training staff are starting to report to medical staff instead of athletic staff and coaches, as the NCAA has recommended as a best practice.⁴²

RULE CHANGES, GUIDANCE & COACHING ADVANCEMENTS

- At the collegiate level, all training and conditioning sessions should be administered by personnel with demonstrated competency in the safe and effective development and implementation of training and conditioning activities, and with the necessary training to respond to emergency situations arising from those activities.⁴³

Numerous entities have issued guidance and guidelines.

- National Football Foundation Issues Coach Guidelines.⁴⁴
 - In August of 2016, the National Football Foundation distributed a set of guidelines, created with feedback from the Texas High School Coaches Association (THSCA) and the American Football Coaches Association (AFCA), to help more than 150,000 high school coaches inform parents about efforts to make their programs safer.
 - The guidelines were sent to and utilized by state high school athletic associations, the AFCA membership base of 11,000, the NFF's 120 nationwide chapters and high school coaches across the country.
- 28 states require coaches to be trained in youth sports concussion recognition and awareness.⁴⁵
 - Hawaii, Oregon, California, Montana, North Dakota, South Dakota, Minnesota, Wyoming, Colorado, New Mexico, Texas, Louisiana, Arkansas, Alabama, Tennessee, Kentucky, West Virginia, Ohio, Michigan, Pennsylvania, New York, New Jersey, Delaware, Connecticut, Rhode Island, Massachusetts, Vermont, Maine. The state of Ohio requires training of coaches and referees.
- Data from the NCAA-DOD CARE Consortium is used to shape rules changes designed to facilitate ongoing objectives in college sports.⁴⁶
- The NCAA Sport Science Institute and leading scientific and sports medicine organizations have developed recommendations for athletics departments and coaches to use as they plan their year-round football practice sessions.⁴⁷
 - The 2017 recommendations serve as an update from 2014 guidance and include additional recommendations for preseason, in-season, postseason and spring practice.
- In 2014, NFHS issued recommendations and guidelines for minimizing head impact exposure and concussion risk in football.⁴⁸
 - Full contact should be limited during the regular season, as well as during activity outside of the traditional fall football season.
 - Member state associations should consider a variety of options for limiting contact in practices. The task force strongly recommended full contact be limited to no more than 2-3 practices per week.
 - Preseason practices may require more full contact time than practices occurring later in the regular season to allow for teaching fundamentals with sufficient repetition.
 - During preseason twice-daily practices, only one session per day should include full contact.
 - Each member state association should review its current policies regarding total quarters or games played during a one-week time frame.
 - Member state associations with jurisdiction over football outside of the traditional fall football season should

review their current policies to assess if those policies stand in alignment with the fundamentals discussed within the report and, if needed, modify the policies accordingly.

- Each member state association should reach out to its respective state coaches' association on designing and implementing a coach education program that appropriately integrates youth, middle school and high school football programs in every community.
 - An Emergency Action Plan (EAP) with clearly defined written and practiced protocols should be developed and in place at every high school.
- In 2018, the NFL launched “Way to Play,” an initiative committed to promoting proper playing technique across all levels of football.⁴⁹
 - Current players and NFL Legends from key positions demonstrate proper technique.
 - NFL coaches explain fundamental concepts, share best practices and advice on how to coach each position on the field.
 - The Playbook, created with the Legends Youth Advisory Committee, is a tool for youth coaches that outlines the curriculum, language to use and fundamentals of the game.
 - In 2022, NFL and NFHS launch FREE online course to help teach proper tackling techniques.⁵⁰ And American Youth Football, Inc. (AYF), a national youth partner of the NFL, will require all coaches on its regional/national track (more than 50,000) to take the new course introduced on the NFHS Learning Center.⁵¹



RULE CHANGES, GUIDANCE & COACHING ADVANCEMENTS

- In February 2020, the Center for Disease Control (CDC) revised its HEADS UP to Youth Sports to improve the culture of concussion by taking a free online training and using what is learned to inform how coaches and parents talk about, prevent and respond to concussions. The HEADS UP to Youth Sports: Online Training is available to coaches, parents, sports officials, athletic trainers and other individuals interested in learning about concussion safety.⁵²
- Pop Warner Rules and Heads-Up Football Training has resulted in an injury rate that has 87% fewer injuries compared to non-Heads-Up and non-Pop Warner programs, according to Datalyt Institute's research data.⁵³
- From 2010-2019, Pop Warner instituted other major safety-focused changes.⁵³
 - Teach kids how to better recognize if they or a teammate have suffered a concussion. Pop Warner provides access to CrashCourse, an interactive concussion education program developed by TeachAids, a nonprofit education initiative, and researchers at Stanford University.
 - Offers Rookie Tackle, a program to help kids transition from Flag Football to 11-player tackle. It is played on a smaller field with fewer players and meant to introduce the sport.
 - In 2016, Pop Warner announced contact is restricted to 25 percent of practice time.
 - In 2012, Pop Warner banned full speed head-on, blocking or tackling drills where players lined up more than 3 yards apart.
 - In 2010, Pop Warner implemented the first youth sports concussion policy. Under the policy, any participant removed from play due to a head injury may not return to Pop Warner activities until he or she is evaluated – and receives written clearance – by a licensed medical professional trained in the evaluation and management of concussions.
 - To ensure that Pop Warner stays on the forefront of health and safety issues and any medical developments that may affect our young athletes, Pop Warner formed an independent Medical Advisory Committee in 2010. Led by neurosurgeons, researchers, pediatricians and sports medicine professionals, the committee is focused on the prevention, proper identification and treatment of concussions; hydration awareness and proper nutrition guidelines; and general health and safety issues.
- The University Interscholastic League (UIL) and the Texas High School Coaches Association (THSCA) worked collaboratively to take the unprecedented step forward to make football a safer sport. In October 2017, the UIL Legislative Council passed a rule requiring every Texas high school and junior high school football coach to become certified in teaching tackling as a part of the official UIL Coaches Certification Program that began in the 2018-19 school year.⁵⁴



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SOUTH CAROLINA



TECHNOLOGY ADVANCEMENTS

TECHNOLOGY ADVANCEMENTS

INSIGHTS

TECHNOLOGY ADVANCEMENTS THROUGH THE YEARS ARE MAKING THE GAME BETTER.

The reliability and performance of helmets is an area of increasing study, and various tech businesses are creating new helmets to improve game safety.

- For the fourth straight season, 99 percent of NFL players wore high-performing helmets,¹ up from 41% in 2017.² Guardian Caps were first used by NFL players in practices starting in 2020. The league officially mandated use for select positions starting in 2022 training camps. In 2023, the NFL also included preseason, regular-season and postseason practices as part of the mandate. In 2024, the NFL will allow players to, optionally, wear Guardian Caps in regular season games.³
- In 2024, the NFL and NFL Players Association, expanded its rankings of Helmet Laboratory Testing Performance Results. Traditionally one ranking of all helmets, the 2024 results were broken into three position-specific test results, for Quarterbacks, Offensive Linemen and Defensive Linemen, plus an overall performance result not specific to those three positions. The rankings are based exclusively on the ability of the helmet to reduce head impact severity measures in laboratory testing. The results:⁴
 - Overall: Riddell Axiom 3D
 - Defensive Linemen: Xenith Orbit Pro
 - Offensive Linemen: Xenith Orbit Pro
 - Quarterbacks: Vicis Zero2 Matrix ID QB
- Guardian Caps are mandatory in the NFL for all preseason camps and practices with contact. The NFL has waived the requirement to wear Guardian Caps during regular-season and postseason practices for players who choose one of six specified new helmet models.⁵
 - Since 2011, Virginia Tech researchers have been providing unbiased helmet ratings that allow consumers to make informed decisions when purchasing helmets. The helmet ratings are the culmination of over 15 years of research on head impacts in sports and identify which helmets best reduce concussion risk.⁶
 - A total of 30 varsity football helmets have been rated using the STAR evaluation system. Impact tests evaluate a helmet's ability to reduce linear and rotational acceleration of the head resulting from a range of head impacts a football player might see on the field. Helmets with more stars provide a reduction in concussion risk for these impacts compared to helmets with less stars.⁷
 - A total of 34 youth football helmets have been rated using the STAR evaluation system. Impact tests evaluate a helmet's ability to reduce linear and rotational acceleration of the head resulting from a range of head impacts a youth football player might see on the field. The lab tests are based on data we collected directly from 10- to 14-year-old youth football players that wore helmets equipped with sensors. Helmets with more stars provide a reduction in concussion risk for these impacts compared to helmets with less stars.⁸
 - Canadian Football League running back Thomas Bertrand-Hudon of the Saskatchewan Roughriders is believed to be the first professional football player to wear a Guardian Cap in a regular season game, on August 16, 2024.⁹
 - A total of 34 flag football headgear have been rated using the STAR evaluation system. Impact tests evaluate a headgear's ability to reduce linear and rotational acceleration of the head resulting from a range of head impacts a flag football player might see on the field. Headgear with more stars provide a reduction in concussion risk for these impacts compared to helmets with less stars. Group ratings are differentiated by pre-determined thresholds.¹⁰
- One neurologist believes a new helmet concept will save high school football. Modified testing showed the BrainGuard helmet reduced rotational force by 25-50% compared to the top helmets on the market.¹¹

TECHNOLOGY ADVANCEMENTS

INSIGHTS

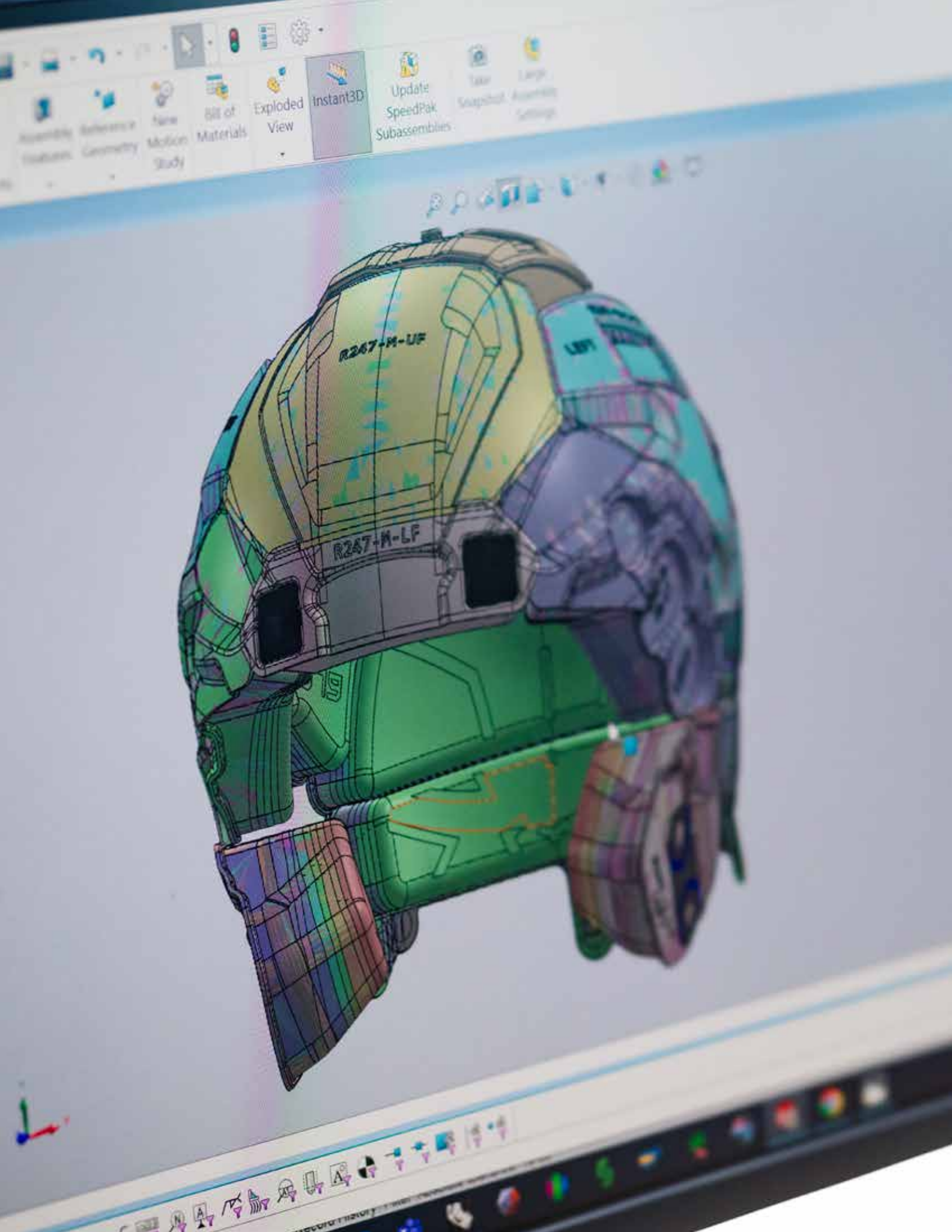
- A new technology and helmet design by Savior Brain and Stanford University involving liquid shock absorbers has the potential to diminish the impact of head injuries by 33 percent.¹²
- Scientists and the U.S. Army Research Laboratory have developed elastic microlattice pads that can withstand both single hits and a series of impacts better than existing state-of-the-art foams used in football helmets. Their research suggests that the material may pave the way for helmets that better protect football players and other athletes from brain injuries caused by repeated head hits.¹³
- The National Operating Committee on Standards for Athletic Equipment (NOCSAE) is an independent and nonprofit standards development body with the sole mission to enhance athletic safety through scientific research and the creation of performance standards for athletic equipment. While NOCSAE sets performance and test standards for athletic equipment, it does not certify or approve athletic equipment. Safety Equipment Institute (SEI) oversees the certification of athletic equipment to NOCSAE standards.¹⁴ A list of NOCSAE certified equipment is available online.

New tracking technology has improved the benefits of “smart” mouthguards.

- Data from mouthguards can track the force of impact on a player and assist in evaluating the risk of a concussion after a hit. Force Impact Technologies (FITGuard), Akervall Technologies (SISU Sense) and Catapult are three companies that have created mouthguards that use sensors placed in a mouthguard to measure accurate acceleration readings upon impact.¹⁵
- The NFL in 2022 expanded its partnership with eight total research universities now to collect data from on-field impacts through mouthguard sensors.¹⁶
- New instrumented mouthpieces are allowing researchers to gather data related to head impacts. Such gathering techniques allowed researchers with the Center for Injury Research and Prevention, through Children’s Hospital of Philadelphia, to determine that nearly one-third of concussions in NFL players were due to impacts from the facemask. It has prompted renewed focus on a part of the helmet that has remained mostly unchanged for the last decade.¹⁷

Organizations are testing and/or being rewarded for advancing the game through technology.

- In 2020 and 2021 the NFL awarded \$2.9 million in grant funding through the HeadHealthTECH Challenge to support teams of innovators in the creation of their helmet prototypes.¹⁸
- In 2022, the NFL launched the Contact Detection Challenge, offering prize grants for innovations to predict player injuries through machine learning and computer vision.¹⁹
- The NFL and Amazon Web Services (AWS) partnered to transform player health and safety using cloud computing, machine learning and artificial intelligence (AI). In 2022, they announced the results of its artificial intelligence competition, which challenged data scientists to teach computers to automatically detect players involved in head impacts from NFL game footage. The new computer vision models further strengthen the data and insights at the heart of the NFL’s effort to understand and reduce head injuries. More than 1,000 data analysts from 65 countries competed in the challenge and five winning models were awarded a total of \$100,000.



Assembly Features
Reference Geometry
New Motion Study

Bill of Materials
Exploded View

Instant3D

Update SpeedPak Subassemblies

Take Snapshot

Large Assembly Settings

R267-M-UF

R267-M-LF

LF1

LF2



ABOUT THE NATIONAL FOOTBALL FOUNDATION

The National Football Foundation was founded in 1947 with leadership from Colonel Earl “Red” Blaik, General Douglas MacArthur, and Grantland Rice with a mission to mobilize the constructive forces of amateur football to strengthen America’s young people. All felt strongly that the sport built leaders like no other activity. The hallmarks taught through the game, courage, dedication, discipline, teamwork and tenacity, uniquely positioned football’s impact on the country.

The National Football Foundation is a multifaceted, 501(c)(3) nonprofit organization dedicated to promoting and representing everything right with the sport. Through the NFF’s programs and initiatives that encompass a broad spectrum of amateur football, the organization preserves the past, promotes the present, prepares for the future and protects the game and the opportunities it provides. These national programs and initiatives include, but are not limited to: Annual Awards Dinner, College Football Hall of Fame, Future For Football campaign, National Scholar-Athlete awards (including the William V. Campbell Trophy presented to college football’s top scholar-athlete), nationwide Chapter System, and research.





ADDENDUM

ADDENDUM

GROWTH OF THE GAME

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