

# Epidemiology of Shoulder Instability in the National Football League

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**Background:** Shoulder instability is a common and potentially debilitating injury among collision sport athletes that can lead to long-term damage of the glenohumeral joint. Limited data exist regarding instability among elite athletes in the National Football League (NFL).

**Purpose:** To describe the epidemiology of shoulder instability in the NFL from 2012 through 2017.

**Study Design:** Descriptive epidemiology study.

**Methods:** The NFL's injury database was reviewed for shoulder instability injuries resulting in missed time during the study inclusion dates. Injuries were classified by type and direction, as well as timing, setting, and mechanism. Median missed time was determined for the different types and directions of instability. Incidence rates for game-related injuries were calculated based on timing during the season and player position. Finally, the relationship between player position and instability direction was assessed.

**Results:** During the 6-year study period, 355 players sustained 403 missed-time shoulder instability injuries. Most injuries occurred during games (65%) via a contact mechanism (85%). The overall incidence rate of game-related instability was 3.6 injuries per 100,000 player-plays and was highest during the preseason (4.9 per 100,000 player-plays). The defensive secondary position accounted for the most injuries, but quarterbacks had the highest incidence rate in games (5.5 per 100,000 player-plays). Excluding unspecified events ( $n = 128$ ; 32%), 70% ( $n = 192$ ) of injuries were subluxations and 30% ( $n = 83$ ) were dislocations; 75% of dislocations were anterior, while subluxations were more evenly distributed between the anterior and posterior directions (45% vs 52%, respectively). Players missed substantially more time after dislocation compared with subluxation (median, 47 days vs 13 days, respectively). When instability direction was known, the majority of instability events among quarterbacks and offensive linemen were posterior (73% and 53%, respectively), while anterior instability was most common for all other positions.

**Conclusion:** Shoulder instability is a common injury in the NFL and can result in considerable missed time. Dislocations occur less frequently than subluxations but lead to greater time lost. While most dislocations are anterior, more than half of subluxations are posterior, which is likely the result of repetitive microtrauma to the posterior capsulolabral complex sustained during sport-specific motions such as blocking. The risk of instability varies by player position, and position may also influence instability direction.

**Keywords:** shoulder instability; glenohumeral instability; shoulder dislocation; shoulder subluxation; National Football League; professional athletes

Glenohumeral joint instability is a common and potentially debilitating injury, particularly among collision sport athletes.<sup>12,17,23</sup> In a recent study of collegiate American football players, shoulder instability accounted for 20% of all shoulder and elbow injuries.<sup>12</sup> While in-season shoulder instability can result in considerable missed time and potentially require season-ending surgery,<sup>5,8,22,23</sup> recurrent shoulder instability may have important long-term consequences,

including significant disruption of the capsulolabral complex and increased risk for glenohumeral osteoarthritis.<sup>13,16,21</sup>

Owens et al<sup>23</sup> described the incidence of shoulder instability among collegiate athletes, noting that spring football had the highest injury rate of the 16 sports considered. That study, however, did not differentiate between subluxation and dislocation, nor did it specify the direction of instability events. Additionally, incidence may vary by level of play, and there are no studies that provide a comprehensive overview of shoulder instability at the highest level of American football in the National Football League (NFL). Shoulder instability represents a spectrum of injury, and important differences may exist between the different types and

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directions of instability in terms of incidence, risk factors, missed time, and recurrence. A more thorough understanding of shoulder instability among collision sport athletes is vital to developing measures to aid in diagnosis, treatment, and prevention.

The purpose of this study was to provide an in-depth description of shoulder instability occurrence among elite athletes in the NFL over the course of 6 seasons. Secondary objectives were (1) to examine the variation in missed time after different types and directions of shoulder instability, and (2) to explore the relationship between player position and shoulder instability direction.

## METHODS

This was a retrospective observational study that included all documented shoulder instability injuries resulting in missed time during the 2012 through 2017 NFL seasons. The study received institutional review board approval as well as approval from the NFL Player Scientific & Medical Research Approval Process.<sup>9</sup>

In the NFL, injury data are prospectively collected in a standardized manner for all 32 football teams through a mandated process governed by a collective bargaining agreement with the NFL Players Association.<sup>19</sup> When a player sustains an injury, the team's medical staff enters data regarding injury type, roster position at the time of injury, timing (preseason, regular season, postseason), setting (practice, game, conditioning), injury mechanism (contact, noncontact), and return to participation.<sup>9</sup> Numerous safeguards are in place to ensure data quality and completeness, including regular training for athletic trainers and other reporters, monthly data quality reports for all teams, and prospective queries to collect missing data. From 2012 through 2014, data collection occurred through a proprietary Injury Surveillance System (ISS), which compiled data on injuries that resulted in missed time and/or required medical intervention. In 2015, the NFL transitioned to a central electronic medical record (EMR) system and started tracking all injuries regardless of missed time. Considering these differences in reporting guidelines under the ISS and EMR systems, injuries from 2012 through 2014 and injuries from 2015 through 2017 were analyzed and presented separately. Injury data for this study were integrated with data from the NFL Game Statistics and Information System, which documents player participation in games to calculate game incidence rates per player-play (defined as 1 athlete participating in 1 game play).

Missed time was defined as the number of days that elapsed between the date of injury and the date of return to full participation, as reported by the team's medical staff. Medical staff are instructed to record return to full participation as the date the player resumes full participation without restriction, regardless of the team activity or timing within the season (ie, return to full participation is not specific to return to game participation). Shoulder instability events are characterized in terms of type (subluxation, dislocation), laterality (right, left), and direction (anterior, posterior, inferior, multidirectional) based on history, physical examination, and medical imaging. By definition, subluxations are instability events that do not require a reduction maneuver, while dislocations are instability events that necessitate manual reduction by a health care provider; however, the formal diagnosis is ultimately made at the discretion of the medical provider.

## Analytic Methods

Descriptive statistics were calculated for the occurrence of shoulder instability, stratified by the number of affected players and shoulders, average player age, shoulder laterality, instability type, instability direction, injury setting, and injury mechanism. Given the potential for missed time to be influenced by the timing of an injury within the season, descriptive statistics presented for missed time include median and interquartile range (25th and 75th percentile values). Injuries that did not have a return-to-participation date (ie, the player had not returned from injury by the time of this study, the player left his team before returning to play, or the return-to-play date was erroneously not reported in the EMR) were excluded from missed-time calculations. Incidence rates were computed on a per-play basis using game participation data and are presented per 100,000 player-plays. A single exposure, or player-play, was defined as 1 athlete participating in 1 offensive, defensive, or special teams play.

## RESULTS

From 2012 through 2017, 403 missed-time shoulder instability injuries were documented in 355 unique players in the NFL over the full study period (Table 1). Of these, 39 players (11.0%) suffered multiple episodes of instability. The left shoulder was affected more often than the right (57% vs 43%, respectively), and 14 players (4.0%) experienced bilateral instability. The number of injuries per year

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Ethical approval for this study was obtained from Columbia University, Mount Sinai School of Medicine, and the NFL's Player Scientific & Medical Research Approval Process.

TABLE 1  
Shoulder Instability by Year From 2012 Through 2017<sup>a</sup>

	Injury Surveillance System				Electronic Medical Record			
	2012	2013	2014	Average	2015	2016	2017	Average
Players	46	56	75	59	75	60	71	69
Player age (mean ± SD)	25.4 ± 2.9	25.4 ± 2.8	25.3 ± 2.2	25.4 ± 2.6	25.7 ± 3.1	25.4 ± 2.5	25.3 ± 2.7	25.5 ± 2.8
Shoulders	46	56	75	59	75	61	71	69
Right <sup>b</sup>	21	22	33	25	32	24	34	30
Left <sup>b</sup>	25	33	42	33	43	37	37	39
Instability events	49	64	78	64	77	62	73	71
Instability type								
Subluxation	19	26	40	28	42	26	39	36
Dislocation	15	15	16	15	14	12	11	12
Unspecified	15	23	22	20	21	24	23	23
Instability direction								
Anterior <sup>c</sup>	19	18	26	21	29	21	22	24
Posterior <sup>c</sup>	13	14	17	15	21	17	23	20
Inferior	0	0	6	2	3	2	2	2
Multidirectional	0	0	2	<1	3	1	5	3
Unspecified	17	32	27	25	21	21	21	21
Injury setting								
Practice	13	17	24	18	28	16	18	21
Game	34	40	48	41	45	45	48	46
Other/unspecified	2	7	6	5	4	1	7	4
Injury mechanism								
Contact	42	55	67	55	68	55	54	59
Noncontact	1	0	0	<1	1	0	3	1
Unspecified	6	9	11	9	8	7	16	10

<sup>a</sup>Data from the 2012 through 2014 seasons include all documented shoulder instability injuries that resulted in missed time and/or required medical intervention. Data from the 2015 through 2017 seasons include only missed-time injuries, defined as injuries that resulted in the affected players being removed from the remainder of the index activity and/or unable to participate in a subsequent team-related activity.

<sup>b</sup>Laterality was unavailable for 1 injury reported in 2013.

<sup>c</sup>Shoulder instability injuries reported as “anterior-inferior” or “posterior-inferior” were included in the anterior and posterior categories, respectively.

TABLE 2  
Incidence of Game-Related Shoulder Instability by Season From 2012 Through 2017<sup>a</sup>

	Instability Events, n	Player-Plays	Game Incidence Rate per 100,000 Player-Plays (95% CI)
Total	260	7,279,765	3.6 (3.2-4.0)
Preseason	69	1,408,548	4.9 (3.9-6.2)
Regular season	181	5,630,859	3.2 (2.8-3.7)
Postseason	10	240,358	4.2 (2.2-7.7)

<sup>a</sup>Data from the 2012 through 2014 seasons include all documented shoulder instability injuries that resulted in missed time and/or required medical intervention. Data from the 2015 through 2017 seasons include only missed-time injuries, defined as injuries that resulted in the affected players being removed from the remainder of the index activity and/or unable to participate in a subsequent team-related activity.

was relatively constant throughout the study period, ranging from 49 in 2012 to 78 in 2014 (average, 67 injuries per year). The mean age of affected athletes was 25.4 ± 2.7 years. Subluxations (n = 192; 48%) were more common than dislocations (n = 83; 21%), but approximately one-third (n = 128; 32%) of events could not be classified by type based on available data. Excluding events that could not be classified, 70% (n = 192) of injuries were subluxations and

30% (n = 83) were dislocations. Almost two-thirds (n = 260; 65%) of all injuries occurred during games and most (n = 341; 85%) were the result of a contact mechanism.

The overall incidence rate of game-related shoulder instability was 3.6 injuries per 100,000 player-plays (Table 2). While the majority of game injuries occurred during the regular season (n = 181; 70%), the incidence rate was higher during the preseason (4.9 per 100,000

TABLE 3  
Incidence of Game-Related Shoulder Instability by Roster Position From 2012 through 2017<sup>a</sup>

	Instability Events, n	Player-Plays	Game Incidence Rate per 100,000 Player-Plays (95% CI)
Total	260	7,279,765	3.6 (3.2-4.0)
Offensive line	38	1,484,707	2.6 (1.9-3.5)
Running back	19	429,190	4.4 (2.8-6.9)
Tight end	12	448,380	2.7 (1.5-4.7)
Quarterback	15	274,190	5.5 (3.3-9.1)
Wide receiver	31	771,848	4.0 (2.8-5.7)
Defensive secondary	63	1,619,532	3.9 (3.0-5.0)
Defensive line	29	1,038,071	2.8 (1.9-4.0)
Linebacker	48	1,101,580	4.4 (3.3-5.8)
Kicker and punter	5	112,238	4.5 (1.9-10.7)

<sup>a</sup>Players who sustained shoulder instability injuries during special teams plays were classified based on their roster positions. Data from the 2012 through 2014 seasons include all documented shoulder instability injuries that resulted in missed time and/or required medical intervention. Data from the 2015 through 2017 seasons include only missed-time injuries, defined as injuries that resulted in the affected players being removed from the remainder of the index activity and/or unable to participate in a subsequent team-related activity.

TABLE 4  
Missed Time Based on Direction of Shoulder Instability From 2012 Through 2017<sup>a</sup>

	Instability Events, n	Median Days Missed (IQR)	Excluded Instability Events, n (%) <sup>b</sup>
Total <sup>c</sup>	403	23.0 (6, 186)	105 (26)
Anterior <sup>d</sup>	135	28 (6, 173)	27 (20)
Posterior <sup>d</sup>	105	13 (5, 175)	24 (23)
Inferior	13	158 (67, 202)	5 (38)
Multidirectional	11	199.5 (185.5, 204)	3 (27)
Unspecified	139	24 (4, 186)	46 (33)
Dislocations	83	47 (12, 182)	20 (24)
Anterior <sup>d</sup>	52	105 (13, 186)	11 (21)
Posterior <sup>d</sup>	7	93.5 (20, 206)	1 (14)
Inferior	9	166 (6, 227)	3 (33)
Multidirectional	1	180 (NA <sup>e</sup> )	0 (0)
Unspecified	14	16 (5, 27)	5 (36)
Subluxations	192	13 (4, 167)	52 (27)
Anterior <sup>d</sup>	55	14.5 (4.5, 167)	11 (20)
Posterior <sup>d</sup>	63	10 (5, 133)	15 (24)
Inferior	3	144.5 (128, 161)	1 (33)
Multidirectional	1	13 (NA <sup>e</sup> )	0 (0)
Unspecified	70	11 (1, 185)	25 (36)

<sup>a</sup>Data from the 2012 through 2014 seasons include all documented shoulder instability injuries that resulted in missed time and/or required medical intervention. Data from the 2015 through 2017 seasons include only missed-time injuries, defined as injuries that resulted in the affected players being removed from the remainder of the index activity and/or unable to participate in a subsequent team-related activity. IQR, interquartile range.

<sup>b</sup>The number of days missed could not be calculated for injuries in which the player left the team before returning to play, the player had not returned from injury by the time of this study, or the return-to-play date was not available. These injuries were excluded from missed-time calculations.

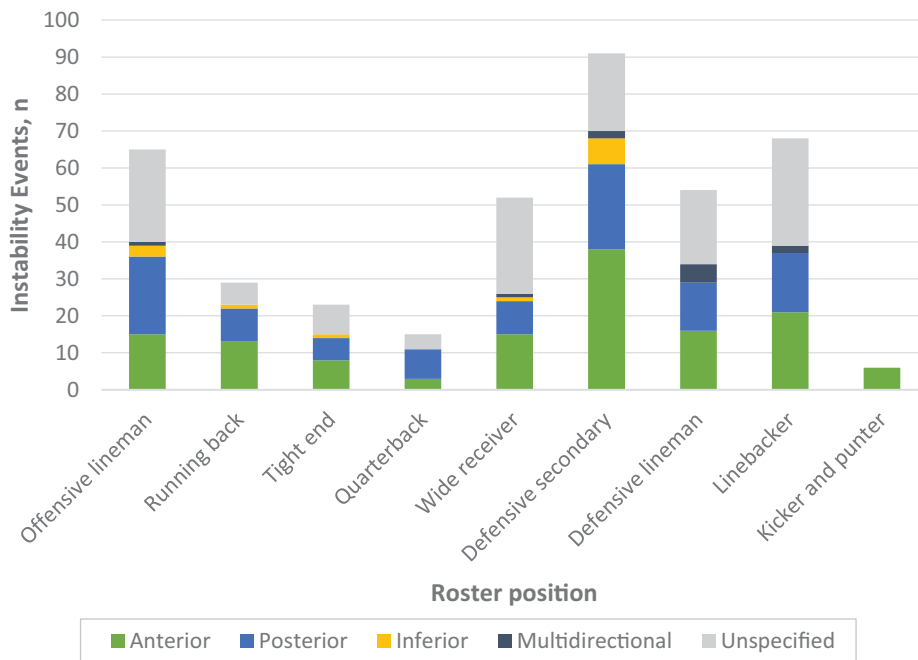
<sup>c</sup>Shoulder instability injuries that were unspecified in terms of type (dislocation vs subluxation) were included in the total but not presented as separate strata (n = 128).

<sup>d</sup>Shoulder instability injuries reported as "anterior-inferior" or "posterior-inferior" were included in the anterior and posterior categories, respectively.

<sup>e</sup>IQR not applicable for 1 instability event.

player-plays, 95% CI [3.9-6.2] vs 3.2 per 100,000 player-plays, 95% CI [2.8-3.7], respectively). Defensive secondary and linebackers suffered the greatest number of game-related shoulder instability injuries (n = 63 and 48, respectively), but after accounting for exposures,

quarterbacks had the highest incidence rate at 5.5 per 100,000 player-plays, followed by kickers and punters (4.5 per 100,000 player-plays), linebackers (4.4 per 100,000 player-plays), and running backs (4.4 per 100,000 player-plays) (Table 3).



**Figure 1.** Distribution of shoulder instability direction by roster position from 2012 through 2017. Data from the 2012 through 2014 seasons include all documented shoulder instability injuries that resulted in missed time and/or required medical intervention. Data from the 2015 through 2017 seasons include only missed-time injuries, defined as injuries that resulted in the affected players being removed from the remainder of the index activity and/or unable to participate in a subsequent team-related activity.

Players missed a median of 47 days after dislocation and 13 days after subluxation (Table 4). Of note, 105 (26%) injuries, including 24% of dislocations and 27% of subluxations, were excluded from missed-time analysis because of incomplete return-to-participation data (ie, the player left the team before returning to play, the player had not returned from injury by the time of this study, or the return-to-play date was not reported in the EMR). Inferior and multidirectional instability injuries were associated with greater missed time compared with anterior and posterior, though the total number of inferior and multidirectional injuries reported was small ( $n = 13$  and  $n = 11$ , respectively) and significant variability was observed.

In terms of direction, anterior shoulder instability was the most common overall. However, it should be noted that direction was not specified for 34% of injuries. After excluding injuries for which direction was not specified, 75% of shoulder dislocations were anterior; subluxations were almost evenly distributed between the anterior and posterior directions (45% vs 52%, respectively). The majority of shoulder instability injuries among quarterbacks and offensive linemen were posterior (73% and 53%, respectively, after excluding unspecified injuries), while anterior shoulder instability was most common for all other positions (Figure 1).

## DISCUSSION

This epidemiologic study provides the most comprehensive overview of shoulder instability in the NFL to date. The

prevalence of shoulder instability remained relatively constant across the study period, with a range of 49 to 78 missed-time injuries per year (average, 67.2 injuries per year). The majority of instability injuries occurred during games via a contact mechanism, which has also been observed at the collegiate level.<sup>12,23</sup> The incidence of shoulder instability was highest during the preseason, possibly due to increased utilization of full-contact drills in the setting of players competing for limited roster spots or greater athlete susceptibility resulting from off-season deconditioning, as has been suggested in previous studies.<sup>1,7,10,15,23,32</sup> Also in line with existing literature, subluxations were more common than dislocations,<sup>12,25</sup> but dislocations resulted in greater missed time.<sup>5,8,22</sup> Additionally, this study revealed important differences between subluxations and dislocations in terms of instability direction, and both the rate of instability and instability direction were found to correlate with player position.

As mentioned previously, players missed substantially more time after dislocation compared with subluxation (median, 47 days vs 13 days, respectively). Although this finding is consistent with other studies in principle,<sup>5,8,22</sup> the median missed time after either type of instability event was markedly higher in this study. For instance, Dickens et al<sup>8</sup> observed that collegiate contact athletes treated nonoperatively for in-season anterior shoulder instability returned to sport a median of 7 days after a dislocation and 3 days after a subluxation. This discrepancy has several possible explanations: (1) missed-time calculations in the current study did not consider treatment

modality and included injuries treated both operatively and nonoperatively, whereas the studies referenced above are largely limited to nonoperative management; (2) return to play in the NFL can be influenced by several factors unrelated to a player's health, such as a team's schedule or a player's perceived skill level; and (3) the pathogenesis of shoulder instability may vary from sport to sport, leading to distinct injury patterns with different recovery periods. Interestingly, the current study may have actually underestimated missed time after shoulder instability injuries, as more severe instability events resulting in greater missed time may have been more likely to have incomplete return-to-participation data and, therefore, could have been disproportionately excluded from missed-time calculations.

Owing to differences in reporting practices under the NFL's ISS (2012-2014) and EMR (2015-2017), only missed-time injuries were included in this study to maximize homogeneity. While previous epidemiologic research of shoulder instability among athletes has similarly been restricted to missed-time injuries,<sup>23</sup> excluding non-missed time injuries underestimates the prevalence and incidence of shoulder instability, as not all instability events lead to removal from play.<sup>5</sup> Among high school and collegiate athletes, Buss et al<sup>5</sup> found that 9% of players did not miss time after shoulder subluxation versus 5% after dislocation. Accordingly, shoulder subluxation, in particular, is likely underrepresented in this study and in the literature in general.<sup>26</sup> Nonetheless, shoulder instability events that do not result in missed time are important to consider, as even first-time traumatic subluxation events are associated with a high rate of pathologic changes to the glenohumeral joint, and if not treated appropriately athletes may develop recurrent instability requiring prolonged removal from play.<sup>8,11,18,26</sup> With the transition to the EMR in 2015, the NFL began tracking all injuries regardless of missed time. Future studies will endeavor to include non-missed time injuries, so as to provide a more accurate estimate of the incidence of shoulder instability in the NFL.

Analysis of shoulder instability incidence rates in this study was restricted to games, as player participation data were not available for practices. As a result, it was not possible to directly compare incidence rates between games and practices while accounting for player participation. However, the absolute number of shoulder instability injuries that occurred in games each season was approximately twice that of practices ( $n = 34-48$  vs  $n = 13-28$ , respectively). Previous research by Owens et al<sup>23</sup> found the incidence rate of shoulder instability among National Collegiate Athletic Association football players to be 9.2 times higher in games than in practices (10.1 vs 1.1 injuries per 10,000 athlete-exposures, respectively). It should be noted that the study by Owens et al<sup>23</sup> defined an exposure as 1 athlete's participation in an entire practice or game, a methodology that perhaps incorrectly assumes equivalent exposure in practices and games while not accounting for variations in individual player exposure resulting from factors such as position and perceived skill level. By defining an exposure as 1 athlete participating in 1 game play, compared with existing literature the current study provided a

more precise estimate of shoulder instability incidence rates in games.<sup>12,23</sup>

Overall, 40% of the specified injuries in the current study were posterior in nature, with posterior subluxation occurring slightly more frequently than anterior subluxation (52% vs 45%, respectively). These findings represent a notable deviation from previous research, which found that posterior instability accounted for only 10% to 18% of all instability injuries and 11% of subluxations.<sup>18,24,25</sup> The participants of those studies, however, were cadets at the United States Military Academy who participated in a variety of intercollegiate and intramural athletic activities.<sup>18,24,25</sup> Among collegiate football players, Goodman et al<sup>12</sup> also observed an increased rate of posterior instability (27%), albeit not as high as this study.

While posterior instability may develop from an acute trauma, for instance a blow to the anterior aspect of the shoulder as can occur when a quarterback is sacked from behind and driven into the ground, locked posterior dislocations are rare.<sup>14,30,31,33</sup> The incidence of posterior dislocation in the general adult population has been estimated at 1.1 per 100,000 person-years.<sup>31</sup> The higher rate of posterior instability among professional and collegiate football players is likely the result of certain sport-specific motions that involve posteriorly directed force on a shoulder in a vulnerable position. More specifically, repetitive micro-trauma with the shoulder flexed, adducted, and internally rotated, as is seen with pass-blocking techniques utilized by offensive linemen, has been proposed as the primary cause of posterior instability among football players.<sup>27,28,30,33</sup> Such recurrent posterior loading of the glenohumeral joint can lead to attenuation, tearing, progressive laxity and, at times, detachment of the posterior capsulolabral complex, allowing for posterior translation of the humeral head relative to the glenoid.<sup>2-4,20,28,29,34,35</sup> Consistent with this theory, shoulder instability among offensive linemen was more commonly posterior than anterior in the current study. Kaplan et al<sup>17</sup> similarly observed a high rate of posterior shoulder instability in offensive linemen at the 2004 NFL Combine. Notably, shoulder instability was also more often posterior among quarterbacks in the current study. Posterior shoulder instability has been observed previously among quarterbacks and other overhead-throwing athletes and is attributed to repetitive stress placed on the posterior capsulolabral complex during the late cocking and follow-through phases of the throwing motion.<sup>3,4,6,20,29</sup>

This study has several limitations that merit further discussion. Despite league-wide efforts to standardize data entry and improve data quality, injury surveillance across 32 teams over a 6-year period is susceptible to variability in reporting. Most of the data included in this study were collected and entered into the ISS/EMR by athletic trainers who at times may not have witnessed injuries firsthand. For such unwitnessed instability events that did not require manual reduction, athletic trainers may have relied on secondhand accounts and collateral information obtained from affected players to characterize injuries (eg, injury mechanism, instability type, instability direction). It was not within the scope of this study to review medical imaging in order to confirm the initial characterizations

of instability injuries as documented by teams' medical staff. The potential for underreporting and imperfect injury characterizations is common to all clinical studies of shoulder instability, however, and is in part owing to the potentially transient nature of the pathology.<sup>18,26</sup> Particularly with shoulder subluxation, medical personnel are reliant on players to seek treatment initially, provide accurate descriptions of instability events, and report recurrences.

There were relatively few inferior and multidirectional instability events, which potentially hindered the identification of trends related to such injuries. Additionally, over one-fourth ( $n = 105$ ; 26%) of players did not have return dates entered into the ISS/EMR and were excluded from missed-time analysis. While some of these athletes may have been truly unable to return to play as a direct result of injury, frequent player movement both inside and out of the NFL, even in the absence of injury, obfuscates return-to-play percentage calculations. Okoroha et al<sup>22</sup> used publicly available internet-based injury reports to determine that 92.8% of NFL players successfully return to full competition after an in-season shoulder instability event. Along the same lines, it was not possible to analyze instability events by treatment modality because of the inherent limitations of the ISS/EMR, which likely affected missed-time calculations and limited the utility of this study's findings in terms of guiding the treatment of in-season shoulder instability injuries. Finally, professional athletes represent a unique population in several regards, but the findings of this study have important implications for players, coaches, and medical staff at all levels of football, as well as other collision sports. Importantly, many of the limitations discussed above are inherent to all injury surveillance efforts and underscore the need for continuous refinements of injury reporting systems, ultimately allowing for an improved understanding of risk factors and the development of better injury prevention initiatives.

## CONCLUSION

Shoulder instability is a relatively common injury among NFL players and can result in considerable missed time. Dislocations occur less frequently but lead to greater time lost compared with subluxations. While the majority of dislocations are anterior, subluxations are more often posterior. The high overall incidence of posterior instability observed in this study is likely the result of repetitive microtrauma to the posterior capsulolabral complex sustained during sport-specific motions such as blocking. Certain positions are at increased risk for shoulder instability, and player position may also influence the direction of instability events. This study highlights the diverse nature of shoulder instability injuries and the need for heightened awareness among medical personnel treating collision sport athletes.

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