Original Sample Summary Report

NATIONAL HIGH SCHOOL SPORTS-RELATED INJURY SURVEILLANCE STUDY

2024-25 School Year

Compiled by:
Christy Collins, PhD
Megan Anderson, MPH
Todd Burus, MAS

High School RIO™

High School Sports-Related Injury Surveillance Study

ACKNOWLEDGEMENTS

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NOTE

The analyses presented here provide only a brief summary of collected data, with the feasibility of a more detailed presentation limited by the extensive breadth and detail contained in the dataset. The Principal Investigator, Christy Collins, PhD, is happy to provide further information or to discuss research partnership opportunities upon request. Data contained within these reports should not be published in any form without permission from the Principal Investigator.

For reprints/further information contact:

Christy Collins, PhD
President
Datalys Center for Sports Injury Research and Prevention

6151 Central Ave
Indianapolis, IN 46220
1-855-832-4222
highschoolrio@datalyscenter.org

REPORTING INFORMATION ONLINE

CONTENTS

I. INTRODUCTION & METHODOLOGY 7
1.1 PROJECT OVERVIEW 8
1.2 BACKGROUND AND SIGNIFICANCE 8
1.3 SPECIFIC AIMS 9
1.4 PROJECT DESIGN 9
1.5 SAMPLE RECRUITMENT 9
1.6 DATA COLLECTION 10
1.7 DATA MANAGEMENT 10
1.8 DATA ANALYSIS 10
II. OVERALL INJURY EPIDEMIOLOGY 11
Table 2.1 Injury Rates by Sport and Type of Exposure 12
Table 2.2 Proportion of Injuries Resulting in Time Loss 14
Table 2.3 Demographic Characteristics of Injured Athletes by Sex 15
Figure 2.1 Injury Diagnosis by Type of Exposure 16
Table 2.4 Body Site of Injury by Type of Exposure 16
Table 2.5 Most Commonly Injured Ankle Structures 17
Table 2.6 Most Commonly Injured Knee Structures 17
Table 2.7 Ten Most Common Injury Diagnoses by Type of Exposure 18
Figure 2.2 Time Loss by Type of Exposure 18
Table 2.8 Injuries Requiring Surgery by Type of Exposure 19
Figure 2.3 New and Recurring Injuries by Type of Exposure 19
Table 2.9 Time during Season of Injury 20
Table 2.10 Practice-Related Variables 20
Table 2.11 Methods for Injury Evaluation and Assessment 21
III. BOYS' FOOTBALL INJURY EPIDEMIOLOGY 22
Table 3.1 Football Injury Rates by Type of Exposure 23
Table 3.2 Demographic Characteristics of Injured Football Athletes 23
Figure 3.1 Diagnosis of Football Injuries by Type of Exposure 24
Table 3.3 Body Site of Football Injuries by Type of Exposure 24
Table 3.4 Ten Most Common Football Injury Diagnoses by Type of Exposure 25
Figure 3.2 Time Loss of Football Injuries by Type of Exposure 25
Table 3.5 Football Injuries Requiring Surgery by Type of Exposure 26
Figure 3.3 History of Football Injuries by Type of Exposure 26
Table 3.6 Time during Season of Football Injuries 27
Table 3.7 Competition-Related Variables for Football Injuries 27
Table 3.8 Practice-Related Variables for Football Injuries 28
Figure 3.4 Player Position of Football Injuries by Type of Exposure 28
Table 3.9 Activities Leading to Football Injuries by Type of Exposure 29
Table 3.10 Activity Resulting in Football Injuries by Injury Diagnosis 30
IV. BOYS' SOCCER INJURY EPIDEMIOLOGY 31
Table 4.1 Boys' Soccer Injury Rates by Type of Exposure 32
Table 4.2 Demographic Characteristics of Injured Boys' Soccer Athletes 32
Figure 4.1 Diagnosis of Boys' Soccer Injuries by Type of Exposure 33
Table 4.3 Body Site of Boys' Soccer Injuries by Type of Exposure 33
Table 4.4 Ten Most Common Boys' Soccer Injury Diagnoses by Type of Exposure 34
Figure 4.2 Time Loss of Boys' Soccer Injuries by Type of Exposure 34
Table 4.5 Boys' Soccer Injuries Requiring Surgery by Type of Exposure 35
Figure 4.3 History of Boys' Soccer Injuries by Type of Exposure 35
Table 4.6 Time during Season of Boys' Soccer Injuries 36
Table 4.7 Competition-Related Variables for Boys' Soccer Injuries 36
Table 4.8 Practice-Related Variables for Boys' Soccer Injuries 37
Figure 4.4 Player Position of Boys' Soccer Injuries by Type of Exposure 37
Table 4.9 Activities Leading to Boys' Soccer Injuries by Type of Exposure 38
Table 4.10 Activity Resulting in Boys' Soccer Injuries by Injury Diagnosis 39

V. GIRLS' SOCCER INJURY EPIDEMIOLOGY 40
Table 5.1 Girls' Soccer Injury Rates by Type of Exposure 41
Table 5.2 Demographic Characteristics of Injured Girls' Soccer Athletes 41
Figure 5.1 Diagnosis of Girls' Soccer Injuries by Type of Exposure 42
Table 5.3 Body Site of Girls' Soccer Injuries by Type of Exposure 42
Table 5.4 Ten Most Common Girls' Soccer Injury Diagnoses by Type of Exposure 43
Figure 5.2 Time Loss of Girls' Soccer Injuries by Type of Exposure 43
Table 5.5 Girls' Soccer Injuries Requiring Surgery by Type of Exposure 44
Figure 5.3 History of Girls' Soccer Injuries by Type of Exposure 44
Table 5.6 Time during Season of Girls' Soccer Injuries 45
Table 5.7 Competition-Related Variables for Girls' Soccer Injuries 45
Table 5.8 Practice-Related Variables for Girls' Soccer Injuries 46
Figure 5.4 Player Position of Girls' Soccer Injuries by Type of Exposure 46
Table 5.9 Activities Leading to Girls' Soccer Injuries by Type of Exposure 47
Table 5.10 Activity Resulting in Girls' Soccer Injuries by Injury Diagnosis 48
VI. GIRLS' VOLLEYBALL INJURY EPIDEMIOLOGY 49
Table 6.1 Girls' Volleyball Injury Rates by Type of Exposure 50
Table 6.2 Demographic Characteristics of Injured Girls' Volleyball Athletes 50
Figure 6.1 Diagnosis of Girls' Volleyball Injuries by Type of Exposure 51
Table 6.3 Body Site of Girls' Volleyball Injuries by Type of Exposure 51
Table 6.4 Ten Most Common Girls' Volleyball Injury Diagnoses by Type of Exposure 52
Figure 6.2 Time Loss of Girls' Volleyball Injuries by Type of Exposure 52
Table 6.5 Girls' Volleyball Injuries Requiring Surgery by Type of Exposure 53
Figure 6.3 History of Girls' Volleyball Injuries by Type of Exposure 53
Table 6.6 Time during Season of Girls' Volleyball Injuries 54
Table 6.7 Competition-Related Variables for Girls' Volleyball Injuries 54
Table 6.8 Practice-Related Variables for Girls' Volleyball Injuries 55
Figure 6.4 Player Position of Girls' Volleyball Injuries by Type of Exposure 55
Table 6.9 Activities Leading to Girls' Volleyball Injuries by Type of Exposure 56
Table 6.10 Activity Resulting in Girls' Volleyball Injuries by Injury Diagnosis 57
VII. BOYS' BASKETBALL INJURY EPIDEMIOLOGY 58
Table 7.1 Boys' Basketball Injury Rates by Type of Exposure 59
Table 7.2 Demographic Characteristics of Injured Boys' Basketball Athletes 59
Figure 7.1 Diagnosis of Boys' Basketball Injuries by Type of Exposure 60
Table 7.3 Body Site of Boys' Basketball Injuries by Type of Exposure 60
Table 7.4 Ten Most Common Boys' Basketball Injury Diagnoses by Type of Exposure 61
Figure 7.2 Time Loss of Boys' Basketball Injuries by Type of Exposure 61
Table 7.5 Boys' Basketball Injuries Requiring Surgery by Type of Exposure 62
Figure 7.3 History of Boys' Basketball Injuries by Type of Exposure 62
Table 7.6 Time during Season of Boys' Basketball Injuries 62
Table 7.7 Competition-Related Variables for Boys' Basketball Injuries 63
Table 7.8 Practice-Related Variables for Boys' Basketball Injuries 64
Figure 7.4 Player Position of Boys' Basketball Injuries by Type of Exposure 64
Table 7.9 Activities Leading to Boys' Basketball Injuries by Type of Exposure 65
Table 7.10 Activity Resulting in Boys' Basketball Injuries by Injury Diagnosis 66
VIII. GIRLS' BASKETBALL INJURY EPIDEMIOLOGY 67
Table 8.1 Girls' Basketball Injury Rates by Type of Exposure 68
Table 8.2 Demographic Characteristics of Injured Girls' Basketball Athletes 68
Figure 8.1 Diagnosis of Girls' Basketball Injuries by Type of Exposure 69
Table 8.3 Body Site of Girls' Basketball Injuries by Type of Exposure 69
Table 8.4 Ten Most Common Girls' Basketball Injury Diagnoses by Type of Exposure 70
Figure 8.2 Time Loss of Girls' Basketball Injuries by Type of Exposure 70
Table 8.5 Girls' Basketball Injuries Requiring Surgery by Type of Exposure 71
Figure 8.3 History of Girls' Basketball Injuries by Type of Exposure 71
Table 8.6 Time during Season of Girls' Basketball Injuries 71
Table 8.7 Competition-Related Variables for Girls' Basketball Injuries 72

Table 8.8 Practice-Related Variables for Girls' Basketball Injuries 73
Figure 8.4 Player Position of Girls' Basketball Injuries by Type of Exposure 73
Table 8.9 Activities Leading to Girls' Basketball Injuries by Type of Exposure 74
Table 8.10 Activity Resulting in Girls' Basketball Injuries by Injury Diagnosis 75
IX. Boys' Wrestling Injury Epidemiology 76
Table 9.1 Boys' Wrestling Injury Rates by Type of Exposure 77
Table 9.2 Demographic Characteristics of Injured Boys' Wrestling Athletes 77
Figure 9.1 Diagnosis of Boys' Wrestling Injuries by Type of Exposure 78
Table 9.3 Body Site of Boys' Wrestling Injuries by Type of Exposure 78
Table 9.4 Ten Most Common Boys' Wrestling Injury Diagnoses by Type of Exposure 79
Figure 9.2 Time Loss of Boys' Wrestling Injuries by Type of Exposure 79
Table 9.5 Boys' Wrestling Injuries Requiring Surgery by Type of Exposure 80
Figure 9.3 History of Boys' Wrestling Injuries by Type of Exposure 80
Table 9.6 Time during Season of Boys' Wrestling Injuries 80
Table 9.7 Competition-Related Variables for Boys' Wrestling Injuries 81
Table 9.8 Practice-Related Variables for Boys' Wrestling Injuries 81
Table 9.9 Activities Leading to Boys' Wrestling Injuries by Type of Exposure 82
Table 9.10 Activity Resulting in Boys' Wrestling Injuries by Injury Diagnosis 83
X. Boys' Baseball Injury Epidemiology 84
Table 10.1 Boys' Baseball Injury Rates by Type of Exposure 85
Table 10.2 Demographic Characteristics of Injured Boys' Baseball Athletes 85
Figure 10.1 Diagnosis of Boys' Baseball Injuries by Type of Exposure 86
Table 10.3 Body Site of Boys' Baseball Injuries by Type of Exposure 86
Table 10.4 Ten Most Common Boys' Baseball Injury Diagnoses by Type of Exposure 87
Figure 10.2 Time Loss of Boys' Baseball Injuries by Type of Exposure 87
Table 10.5 Boys' Baseball Injuries Requiring Surgery by Type of Exposure 88
Figure 10.3 History of Boys' Baseball Injuries by Type of Exposure 88
Table 10.6 Time during Season of Boys' Baseball Injuries 88
Table 10.7 Competition-Related Variables for Boys' Baseball Injuries 89
Table 10.8 Practice-Related Variables for Boys' Baseball Injuries 90
Figure 10.4 Player Position of Boys' Baseball Injuries by Type of Exposure 90
Table 10.9 Activities Leading to Boys' Baseball Injuries by Type of Exposure 91
Table 10.10 Activity Resulting in Boys' Baseball Injuries by Injury Diagnosis 92
XI. Girls' Softball Injury Epidemiology 93
Table 11.1 Girls' Softball Injury Rates by Type of Exposure 94
Table 11.2 Demographic Characteristics of Injured Girls' Softball Athletes 94
Figure 11.1 Diagnosis of Girls' Softball Injuries by Type of Exposure 95
Table 11.3 Body Site of Girls' Softball Injuries by Type of Exposure 95
Table 11.4 Ten Most Common Girls' Softball Injury Diagnoses by Type of Exposure 96
Figure 11.2 Time Loss of Girls' Softball Injuries by Type of Exposure 96
Table 11.5 Girls' Softball Injuries Requiring Surgery by Type of Exposure 97
Figure 11.3 History of Girls' Softball Injuries by Type of Exposure 97
Table 11.6 Time during Season of Girls' Softball Injuries 97
Table 11.7 Competition-Related Variables for Girls' Softball Injuries 98
Table 11.8 Practice-Related Variables for Girls' Softball Injuries 99
Figure 11.4 Player Position of Girls' Softball Injuries by Type of Exposure 99
Table 11.9 Activities Leading to Girls' Softball Injuries by Type of Exposure 100
Table 11.10 Activity Resulting in Girls' Softball Injuries by Injury Diagnosis 101
XII. Gender Differences within Sports 102
12.1 Boys' and Girls' Soccer 103
Table 12.1 Comparison of Boys' and Girls' Soccer Injury Rates 103
Table 12.2 Comparison of Body Sites of Boys' and Girls' Soccer Injuries 103
Table 12.3 Comparison of Diagnoses of Boys' and Girls' Soccer Injuries 104
Table 12.4 Most Common Boys' and Girls' Soccer Injury Diagnoses 104
Table 12.5 Comparison of Time Loss of Boys' and Girls' Soccer Injuries 105
Table 12.6 Comparison of Mechanisms of Boys' and Girls' Soccer Injuries 105

Table 12.7 Comparison of Activities of Boys' and Girls' Soccer Injuries 106
12.2 Boys' and Girls' Basketball 107
Table 12.8 Comparison of Boys' and Girls' Basketball Injury Rates 107
Table 12.9 Comparison of Body Sites of Boys' and Girls' Basketball Injuries 107
Table 12.10 Comparison of Diagnoses of Boys' and Girls' Basketball Injuries 108
Table 12.11 Most Common Boys' and Girls' Basketball Injury Diagnoses 108
Table 12.12 Comparison of Time Loss of Boys' and Girls' Basketball Injuries 109
Table 12.13 Comparison of Mechanisms of Boys' and Girls' Basketball Injuries 109
Table 12.14 Comparison of Activities of Boys' and Girls' Basketball Injuries 110
12.3 Boys' Baseball and Girls' Softball 111
Table 12.15 Comparison of Baseball and Softball Injury Rates 111
Table 12.16 Comparison of Body Sites of Baseball and Softball Injuries 111
Table 12.17 Comparison of Diagnoses of Baseball and Softball Injuries 112
Table 12.18 Most Common Baseball and Softball Injury Diagnoses 112
Table 12.19 Comparison of Time Loss of Baseball and Softball Injuries 113
Table 12.20 Comparison of Mechanisms of Baseball and Softball Injuries 113
Table 12.21 Comparison of Activities of Baseball and Softball Injuries 114
XIII. Trends Over Time 115
Table 13.1 Injury Rates by Sport, Type of Exposure, and Year 116
Table 13.2 Nationally Estimated Number of Injuries by Sport, Type of Exposure, and Year 118
Table 13.3 Body Site of Injury by Year 120
Table 13.4 Injury Diagnosis by Year 121
Table 13.5 Most Common Injury Diagnoses by Year 122
Table 13.6 Time Loss of Injuries by Year 123
Table 13.7 Injuries Requiring Surgery by Year 124
XIV. Reporter Demographics & Compliance 125
XV. Summary 127

REPORTING INFORMATION ONLINE

I. Introduction & Methodology

1.1 Project Overview

To combat the epidemic of obesity among youth in the United States (US), adolescents must be encouraged to get up off the couch and participate in physically active sports, recreation, and leisure activities. Participation in high school sports, one of the most popular physical activities among adolescents, has grown rapidly from an estimated 4.0 million participants in 1971-72 to over 8.0 million in the 2024-25 school year. While the health benefits of a physically active lifestyle including participating in sports are undeniable, high school athletes are at risk of sports-related injury because a certain endemic level of injury can be expected among participants of any physical activity. The challenge to injury epidemiologists is to reduce injury rates among high school athletes to the lowest possible level without discouraging adolescents from engaging in this important form of physical activity. This goal can best be accomplished by investigating the etiology of preventable injuries; by developing, implementing, and evaluating protective interventions using such science-based evidence; and by responsibly reporting epidemiologic findings while promoting a physically active lifestyle among adolescents.

1.2 Background and Significance

High school sports play an important role in the adoption and maintenance of a physically active lifestyle among millions of US adolescents. Too often injury prevention in this population is overlooked as sports-related injuries are thought to be unavoidable. In reality, sports-related injuries are largely preventable through the application of preventive interventions based on evidence-based science. The morbidity, mortality, and disability caused by high school sports-related injuries can be reduced through the development of effective prevention strategies and through programmatic decisions based on injury prevention. However, such efforts rely upon accurate estimates of injury incidence, injury rate calculations, and risk and protective factor data. Previously, no injury surveillance system capable of providing researchers with the needed quality of injury and exposure data for high school sports-related injuries existed.

Since the 2005-06 school year, the National High School Sports-Related Injury Surveillance Study has monitored injuries among US high school athletes participating in boys' football, boys' and girls' soccer, girls' volleyball, boys' and girls' basketball, boys' wrestling, boys' baseball, and girls' softball. Other sports were added in subsequent years including girls' field hockey, girls' gymnastics, boys' volleyball, boys' ice hockey, boys' and girls' lacrosse, boys' and girls' swimming & diving, boys' and girls' track & field, boys' and girls' tennis, boys' and girls' cross country, cheerleading, and girls' wrestling (boys' volleyball, girls' gymnastics, boys' and girls' tennis, and boys' and girls' swimming and diving are no longer under surveillance). The study data have been collected using the time- and cost-efficient RIO (Reporting Information Online) surveillance system. Through the generous contributions of the National Federation of State High School Associations (NFHS) and the NFHS Foundation, the National High School Sports-Related Injury Surveillance Study was able to be continued during the 2024-25 school year. Previous years of this study were funded by the Centers for Disease Control and Prevention (CDC), National Federation of State High School Associations (NFHS), the National Operating Committee on Standards for Athletic Equipment (NOCSAE), the Research Institute at Nationwide Children's Hospital, DonJoy Orthotics, EyeBlack, and The Ohio State University.

During the 2019-20 school year, the National High School Sports-Related Injury Surveillance Study transitioned from Dr. Dawn Comstock at the University of Colorado to Dr. Christy Collins at the Datalys Center for Sports Injury Research and Prevention, Inc. Dr. Collins worked with Dr. Comstock on the National High School Sports-Related Injury Surveillance Study during the 2005-06 through 2013-14 school years and is carrying on the important work of this surveillance system.

1.3 Specific Aims

The continuing objectives of this study are to maintain the National High School Sports- Related Injury Surveillance Study among a nationally representative sample of US high schools. The specific aims of this study are:

A. To determine the incidence (number) of injuries among US high school boys' football, boys' and girls' soccer, girls' volleyball, boys' and girls' basketball, boys' wrestling, boys' baseball, and girls' softball athletes.
B. To calculate the rate of injuries per 1,000 athlete-competitions, per 1,000 athlete-practices, and per 1,000 athlete-exposures for US high school athletes in the 9 sports of interest.
C. To provide detailed information about the injuries sustained by US high school athletes including the type, site, severity, initial and subsequent treatment/care, outcome, etc.
D. To provide detailed information about the injury events including athlete demographics, position played, phase of play/activity, etc.
E. To identify potential risk or protective factors.
F. To compare injury rates and patterns from the 2005-06 through the 2024-25 school years.

1.4 Project Design

The National High School Sports-Related Injury Surveillance Study defined an injury as:

A. An injury that occurred as a result of participation in an organized high school competition or practice and
B. Required medical attention by a team physician, certified athletic trainer, personal physician, or emergency department/urgent care facility and
C. Resulted in restriction of the high school athlete's participation for one or more days beyond the day of injury OR
D. Any fracture, concussion, dental injury, or exertional heat event regardless of whether or not it resulted in restriction of the student-athlete's participation.

An athlete exposure was defined as one athlete participating in one practice or competition where he or she is exposed to the possibility of athletic injury. Exposure was expressed in two parts:

A. Number of athlete-practices = the sum of the number of athletes at each practice during the past week. For example, if 20 athletes practiced on Monday through Thursday and 18 practiced on Friday, the number of athlete-practices would equal 98.
B. Number of athlete-competitions = the sum of the number of athletes at each competition during the past week. For example, if 9 athletes played in a Freshman game, 12 in a JV game, and 14 in a Varsity game, the number of athlete-competitions would equal 35.

1.5 Sample Recruitment

Certified athletic trainers (AT) who provide care to high school athletes were eligible to participate. Eligible ATs received an email introducing the study and inviting them to participate. All high schools with an AT willing to serve as a reporter were categorized into 8 sampling strata by geographic location (northeast, midwest, south, and west) and high school size (enrollment <= 1,000 or > 1,000 students). Participant schools were then randomly selected from each substrata to obtain 100 study schools. To maintain a nationally representative sample, if a school dropped out of the study, another school from the same stratum was randomly selected for replacement. Participating ATs were offered a $300-$350 honorarium depending on the number of sports reported along with an individualized school injury report and 10 Category B CEUs following the study's conclusion.

1.6 Data Collection

ATs enrolled in the National High School Sports-Related Injury Surveillance Study received an email every Monday throughout the study period reminding them to enter their school's data into the RIO surveillance system. Each participating AT was asked to complete 48 weekly exposure reports: one for each week from July 22, 2024 through June 22, 2025. Exposure reports collected exposure information (number of athlete-competitions, athlete-practices, and athlete-performances for cheerleading) and the number of reportable injuries sustained by student athletes for each sport currently in session at their school. For each reportable injury, the AT was asked to complete an injury report. The injury report collected detailed information about the injured player (e.g., age, year in school, etc.), the injury (e.g., site, type, severity, etc.) and the injury event (e.g., position played, phase of play, etc.). The internet-based surveillance tool provided ATs with the ability to view all their submitted data throughout the study and update reports as needed (e.g., need for surgery, days till resuming play, etc.).

1.7 Data Management

In an effort to decrease loss-to follow up, a log of reporters' utilization of the internet-based injury surveillance system was maintained throughout the study period. Reporters who repeatedly failed to log on to complete the weekly exposure and injury reports or who had errors with their reporting were contacted by the study staff and either reminded to report, asked to correct errors, or assessed for their willingness to continue participating in the study.

1.8 Data Analysis

Data were analyzed using SAS software, version 9.4. Although fractures, concussions, dental injuries, and exertional heat events resulting in <1 day time loss were collected, unless otherwise noted, analyses in this report excluded these injuries. With the exception of injury rates, data were weighted for all analyses to produce national estimates. For each sport in each stratum, weights account for the total number of US schools offering the sport and the average number of participating study schools reporting each week for that sport. For example, following is the algorithm used to calculate football weights for the small (enrollment <= 1,000) west stratum:

$$\text{weight} = \frac{\text{national total \# of small west US high schools}}{\text{average \# of small west participating schools reporting football each week}}$$

Injury rates were calculated as the ratio of unweighted case counts per 1,000 athlete-exposures, and they were compared using rate ratios (RR) with 95% confidence intervals (CIs). The following is an example of the RR calculation comparing the rate of injury in boys' soccer to the rate of injury in girls' soccer:

$$\text{RR} = \frac{\text{\# boys' soccer injuries / total \# boys' soccer athlete-exposures}}{\text{\# girls' soccer injuries / total \# girls' soccer athlete-exposures}}$$

Injury proportions were compared using injury proportion ratios (IPR) and corresponding 95% CIs adjusted to account for the sampling weights and the complex sampling design. The following is an example of the IPR calculation comparing the proportion of boys' soccer concussions to the proportion of girls' soccer concussions:

$$\text{IPR} = \frac{\text{\# boys' soccer concussions / total \# boys' soccer injuries}}{\text{\# girls' soccer concussions / total \# girls' soccer injuries}}$$

An RR or IPR >1.00 suggests a risk association while an RR or IPR <1.00 suggests a protective association. CIs not including 1.00 were considered statistically significant. Injury rates over time were compared by running a linear regression and testing for trend.

II. Overall Injury Epidemiology

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Table 2.1 Injury Rates by Sport and Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Event Type	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Overall	***Total***	***3,677***	***1,524,027***	***2.41***	***1,439,640***
	Competition	2,182	442,337	4.93	850,668
	Practice	1,495	1,081,690	1.38	588,972
Boys' Football	***Total***	***1,508***	***380,398***	***3.96***	***492,229***
	Competition	928	68,442	13.56	301,912
	Practice	580	311,956	1.86	190,317
Boys' Soccer	***Total***	***345***	***171,426***	***2.01***	***206,216***
	Competition	234	55,675	4.20	129,916
	Practice	111	115,751	0.96	76,300
Girls' Soccer	***Total***	***377***	***133,769***	***2.82***	***230,933***
	Competition	262	42,397	6.18	153,973
	Practice	115	91,372	1.26	76,960
Girls' Volleyball	***Total***	***204***	***152,029***	***1.34***	***74,542***
	Competition	107	54,700	1.96	37,504
	Practice	97	97,329	1.00	37,038
Boys' Basketball	***Total***	***294***	***182,109***	***1.61***	***96,736***
	Competition	149	58,184	2.56	50,811
	Practice	145	123,925	1.17	45,925
Girls' Basketball	***Total***	***247***	***119,719***	***2.06***	***77,451***
	Competition	163	39,323	4.15	50,510
	Practice	84	80,396	1.04	26,941
Boys' Wrestling	***Total***	***411***	***150,019***	***2.74***	***128,204***
	Competition	179	37,989	4.71	55,462
	Practice	232	112,030	2.07	72,742

Boys' Baseball	***Total***	***161***	***143,237***	***1.12***	***63,750***
	Competition	94	53,112	1.77	37,175
	Practice	67	90,125	0.74	26,575
Girls' Softball	***Total***	***130***	***91,321***	***1.42***	***69,579***
	Competition	66	32,515	2.03	33,405
	Practice	64	58,806	1.09	36,174

* Only includes injuries resulting in ≥1 day time loss.

Table 2.2 Proportion of Injuries Resulting in Time Loss, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	< 1 Day Time Loss	≥ 1 Day Time Loss	Time Loss Data Missing	Total
	%	%	%	%
Overall	***3.9%***	***92.2%***	***3.9%***	***100.0%***
Boys' Football	4.4%	92.3%	3.2%	100.0%
Boys' Soccer	2.4%	93.2%	4.3%	100.0%
Girls' Soccer	2.4%	92.0%	5.6%	100.0%
Girls' Volleyball	1.4%	95.8%	2.8%	100.0%
Boys' Basketball	5.5%	90.2%	4.3%	100.0%
Girls' Basketball	4.4%	91.5%	4.1%	100.0%
Boys' Wrestling	3.1%	91.5%	5.3%	100.0%
Boys' Baseball	4.5%	91.5%	4.0%	100.0%
Girls' Softball	5.7%	92.2%	2.1%	100.0%

* By study definition, non-time loss injuries were fractures, concussions, dental injuries, and exertional heat events that resulted in < 1 day time loss. Because they accounted for a small proportion of all injuries overall, they are not included in any other analyses.

Table 2.3 Demographic Characteristics of Injured Athletes by Sex, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Male		Female	
Year in School	**n**	**%**	**n**	**%**
Freshman	205,369	22.0%	119,725	27.8%
Sophomore	218,230	23.4%	122,052	28.3%
Junior	245,230	26.3%	114,430	26.5%
Senior	262,650	28.2%	75,209	17.4%
Total **	***931,479***	***100.0%***	***431,416***	***100.0%***

Age (years)		
Minimum	11	12
Maximum	19	18
Mean (SD)	15.9 (1.3)	15.6 (1.2)
n	781,047	349,157

BMI		
Minimum	14.6	14.5
Maximum	59.4	37.9
Mean (SD)	24.7 (5.0)	22.1 (3.2)
n	595,667	252,822

* All remaining analyses in this chapter present data weighted to provide national injury estimates.
** Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 2.1 Injury Diagnosis by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

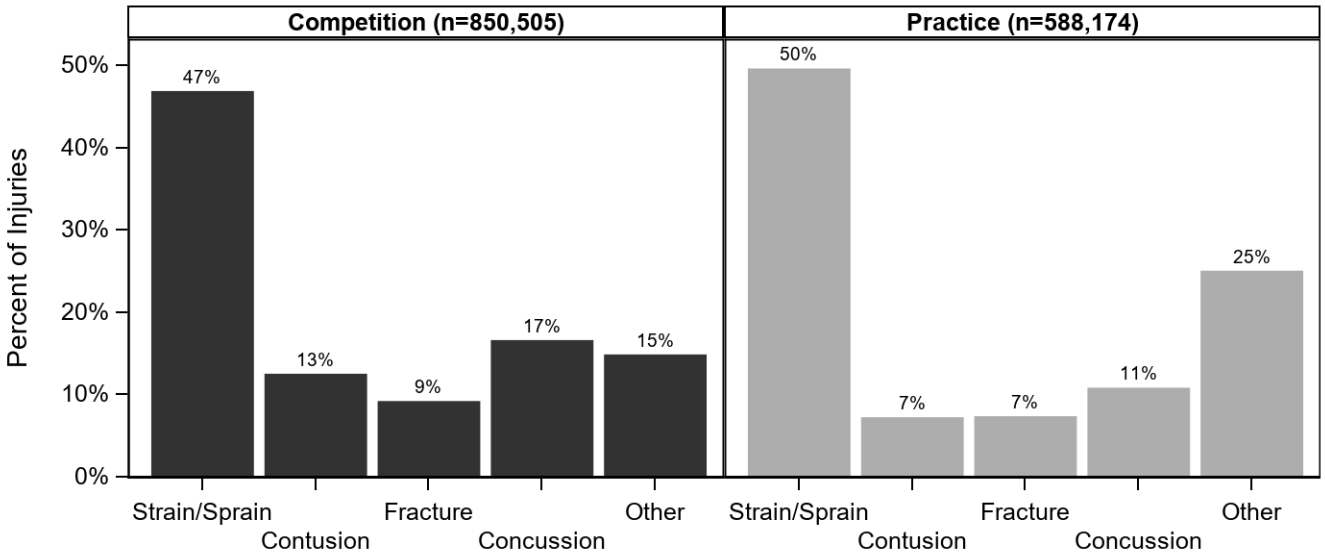


Table 2.4 Body Site of Injury by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Ankle	182,506	21.5%	108,367	18.4%	290,873	20.2%
Head/Face	164,180	19.3%	87,349	14.8%	251,529	17.5%
Knee	135,387	15.9%	76,975	13.1%	212,362	14.8%
Hip/Thigh/Upper Leg	81,957	9.6%	85,638	14.5%	167,594	11.6%
Hand/Wrist	70,646	8.3%	49,684	8.4%	120,330	8.4%
Shoulder	53,693	6.3%	42,099	7.1%	95,792	6.7%
Lower Leg	33,683	4.0%	34,144	5.8%	67,827	4.7%
Arm/Elbow	39,781	4.7%	25,247	4.3%	65,028	4.5%
Trunk	34,769	4.1%	28,314	4.8%	63,084	4.4%
Foot	29,501	3.5%	31,225	5.3%	60,726	4.2%
Other	13,505	1.6%	6,751	1.1%	20,256	1.4%
Neck	6,959	0.8%	5,898	1.0%	12,857	0.9%
Systemic	4,100	0.5%	7,284	1.2%	11,384	0.8%
Total	***850,667***	***100.0%***	***588,973***	***100.0%***	***1,439,640***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 2.5 Most Commonly Injured Ankle Structures, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Male (n=157,049)		Female (n=124,545)		Overall (n=281,594)	
Ankle Ligament Injuries	**n**	**%**	**n**	**%**	**n**	**%**
Anterior Talofibular Ligament	104,615	66.6%	89,967	72.2%	194,582	69.1%
Calcaneofibular Ligament	42,791	27.2%	44,913	36.1%	87,704	31.1%
Anterior Tibiofibular Ligament	34,551	22.0%	29,503	23.7%	64,054	22.7%
Posterior Talofibular Ligament	18,553	11.8%	17,714	14.2%	36,267	12.9%
Deltoid Ligament	15,225	9.7%	9,579	7.7%	24,804	8.8%
Posterior Tibiofibular Ligament	5,670	3.6%	7,098	5.7%	12,768	4.5%

* Multiple ligament responses allowed per injury report. Totals and n's are not always equal due to slight rounding of the weighted number of injuries and missing responses. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 2.6 Most Commonly Injured Knee Structures, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Male (n=141,904)		Female (n=65,274)		Overall (n=207,178)	
Knee Ligament Injuries	**n**	**%**	**n**	**%**	**n**	**%**
Patella and/or Patellar Tendon	42,476	29.9%	18,268	28.0%	60,744	29.3%
Medial Collateral Ligament	33,684	23.7%	7,245	11.1%	40,929	19.8%
Anterior Cruciate Ligament	23,729	16.7%	15,691	24.0%	39,420	19.0%
Torn Cartilage (Meniscus)	24,243	17.1%	7,648	11.7%	31,891	15.4%
Lateral Collateral Ligament	6,421	4.5%	5,777	8.9%	12,198	5.9%
Posterior Cruciate Ligament	1,785	1.3%	1,260	1.9%	3,045	1.5%

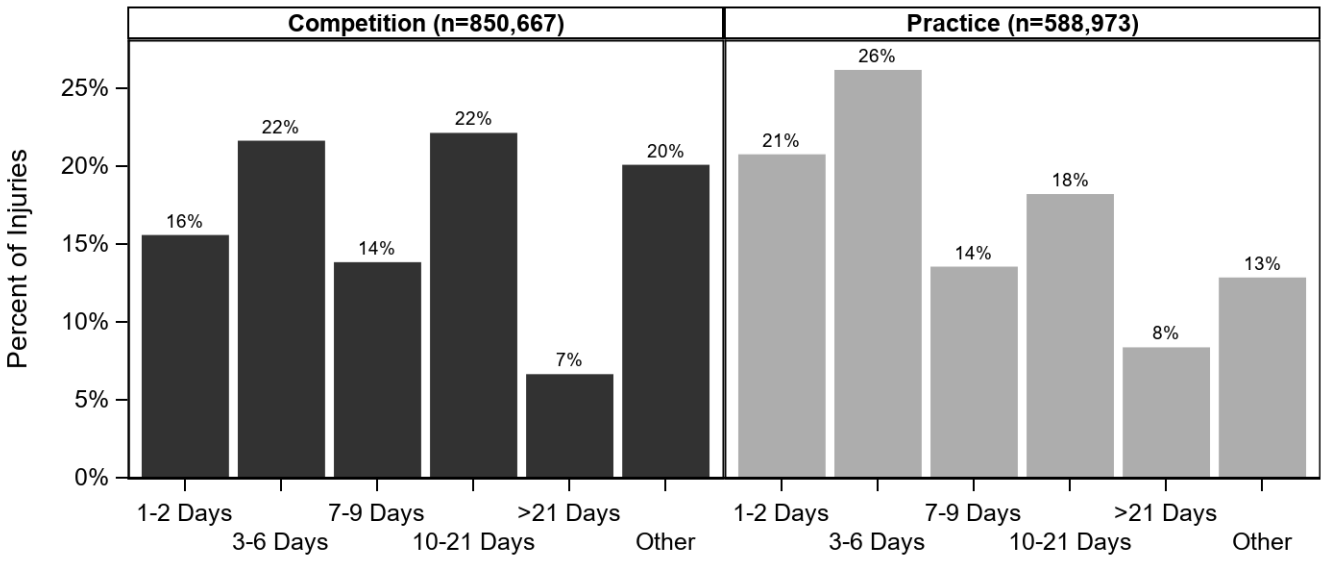
* Multiple ligament responses allowed per injury report. Totals and n's are not always equal due to slight rounding of the weighted number of injuries and missing responses. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 2.7 Ten Most Common Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=850,506)		Practice (n=588,176)		Overall (n=1,438,682)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Ankle Strain/Sprain	169,961	20.0%	102,010	17.3%	271,971	18.9%
Head/Face Concussion	140,994	16.6%	63,605	10.8%	204,599	14.2%
Hip/Thigh/Upper Leg Strain/Sprain	59,233	7.0%	72,876	12.4%	132,109	9.2%
Knee Strain/Sprain	60,154	7.1%	30,163	5.1%	90,317	6.3%
Knee Other	44,915	5.3%	38,886	6.6%	83,801	5.8%
Hand/Wrist Fracture	30,314	3.6%	21,945	3.7%	52,259	3.6%
Shoulder Other	26,194	3.1%	20,987	3.6%	47,181	3.3%
Shoulder Strain/Sprain	24,188	2.8%	17,143	2.9%	41,331	2.9%
Hand/Wrist Strain/Sprain	21,674	2.5%	18,786	3.2%	40,461	2.8%
Knee Contusion	29,170	3.4%	6,927	1.2%	36,097	2.5%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 2.2 Time Loss by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play

Table 2.8 Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	56,837	6.8%	23,222	4.0%	80,058	5.6%
Did Not Require Surgery	784,411	93.2%	560,462	96.0%	1,344,873	94.4%
Total	***841,248***	***100.0%***	***583,683***	***100.0%***	***1,424,931***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 2.3 New and Recurring Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

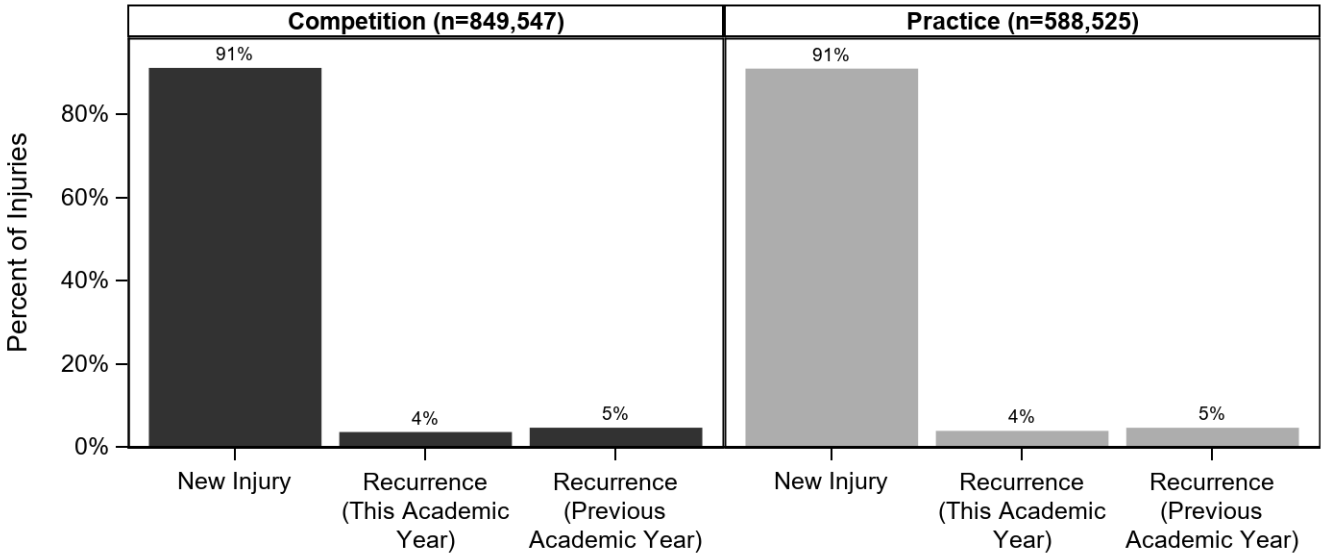


Table 2.9 Time during Season of Injury, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	302,043	21.0%
Regular Season	1,049,599	73.1%
Post Season	83,552	5.8%
Unknown/Other	911	0.1%
Total	***1,436,104***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 2.10 Practice-Related Variables, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	44,498	7.8%
Second 1/2 Hour	72,075	12.6%
1-2 Hours into Practice	302,938	52.8%
>2 Hours into Practice	22,703	4.0%
Unknown	131,620	22.9%
Total	***573,835***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 2.11 Methods for Injury Evaluation and Assessment, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Injuries Evaluated By:	n=1,439,640	%
Certified Athletic Trainer	1,358,200	94.3%
Orthopedic Physician	215,915	15.0%
Physician/Pediatrician	197,738	13.7%
Other	23,571	1.6%
Physician's Assistant	20,408	1.4%
Nurse Practitioner	18,004	1.3%
Chiropractor	6,410	0.4%
Neurologist/Neuropsychologist	6,136	0.4%
School Nurse	2,726	0.2%

Assessment Method:	n=1,439,640	%
Evaluation	1,421,267	98.7%
X-Ray	480,896	33.4%
MRI	146,069	10.1%
CT-Scan	25,971	1.8%
Blood Work/Lab Test	19,907	1.4%
Other	8,425	0.6%

* Multiple responses allowed per injury report.

III. Boys' Football Injury Epidemiology

Table 3.1 Football Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***1,508***	***380,398***	***3.96***	***492,229***
Competition	928	68,442	13.56	301,912
Practice	580	311,956	1.86	190,317

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 3.2 Demographic Characteristics of Injured Football Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	105,337	22.6%
Sophomore	113,228	24.3%
Junior	129,716	27.8%
Senior	118,602	25.4%
Total	***466,883***	***100.0%***

Age (years)	
Minimum	13
Maximum	18
Mean (SD)	15.7 (1.2)
n	384,814

BMI	
Minimum	14.6
Maximum	59.4
Mean (SD)	26.0 (5.6)
n	281,795

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 3.1 Diagnosis of Football Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

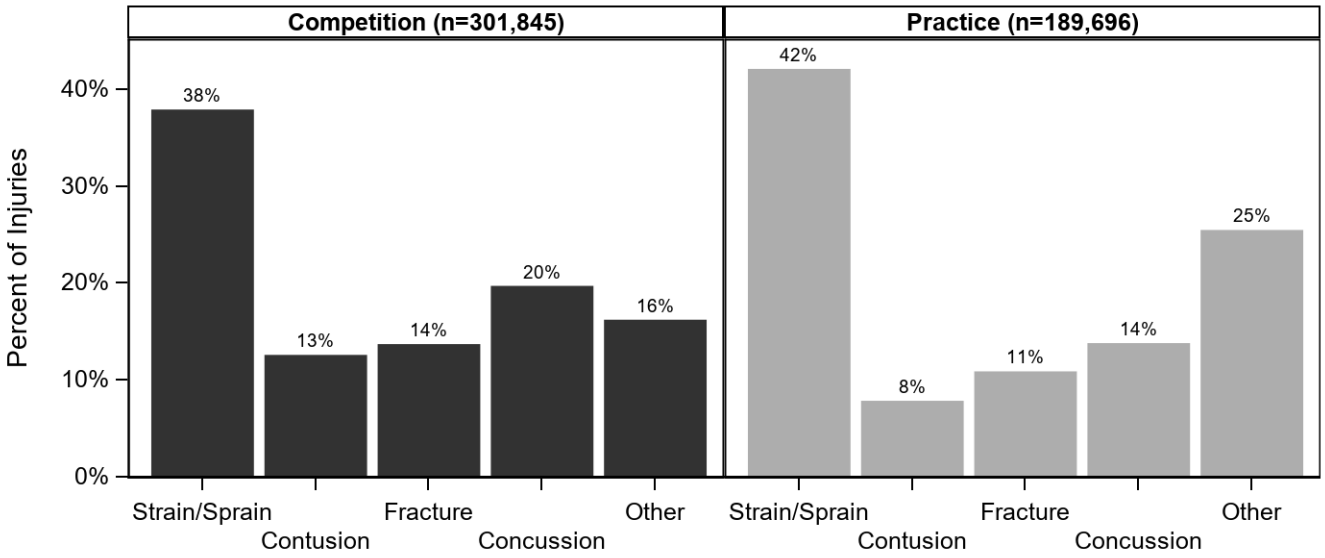


Table 3.3 Body Site of Football Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Head/Face	61,415	20.3%	28,721	15.1%	90,136	18.3%
Knee	49,229	16.3%	24,899	13.1%	74,128	15.1%
Ankle	39,117	13.0%	23,665	12.4%	62,782	12.8%
Hand/Wrist	33,026	10.9%	23,693	12.4%	56,719	11.5%
Shoulder	28,779	9.5%	18,719	9.8%	47,499	9.6%
Hip/Thigh/Upper Leg	21,030	7.0%	22,369	11.8%	43,399	8.8%
Arm/Elbow	19,468	6.4%	9,202	4.8%	28,670	5.8%
Lower Leg	13,428	4.4%	8,946	4.7%	22,374	4.5%
Trunk	12,649	4.2%	8,964	4.7%	21,613	4.4%
Foot	9,040	3.0%	10,649	5.6%	19,689	4.0%
Other	10,448	3.5%	4,529	2.4%	14,976	3.0%
Neck	3,495	1.2%	3,519	1.8%	7,014	1.4%
Systemic	789	0.3%	2,441	1.3%	3,231	0.7%
Total	***301,912***	***100.0%***	***190,317***	***100.0%***	***492,229***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

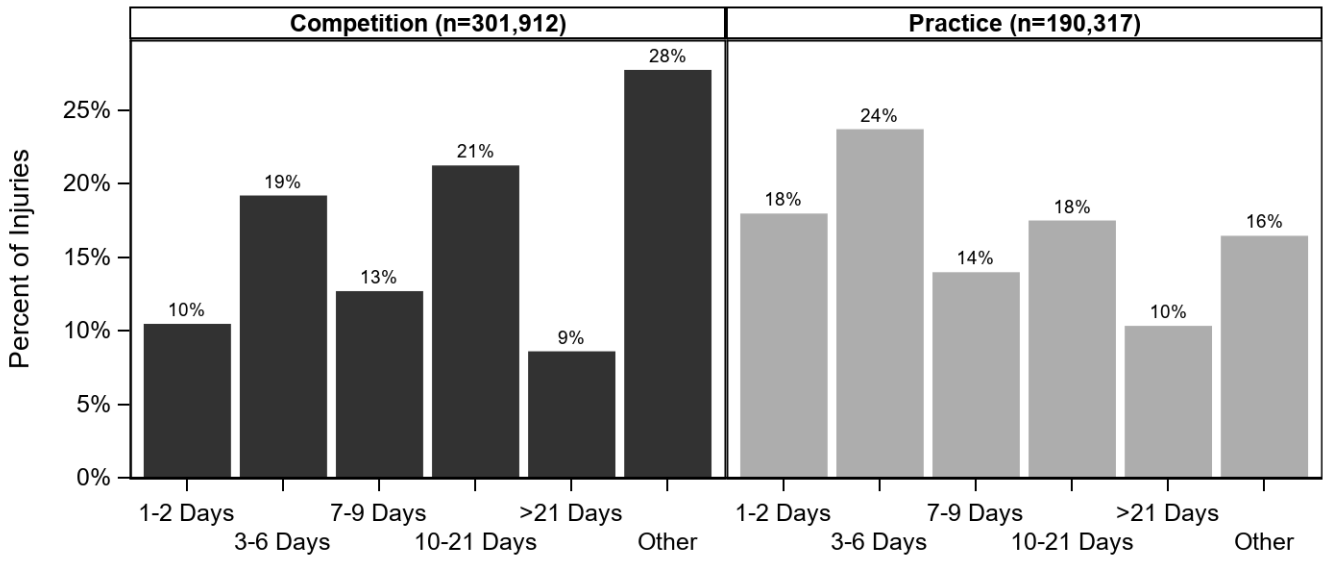
REPORTING INFORMATION ONLINE

Table 3.4 Ten Most Common Football Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=301,843)		Practice (n=189,696)		Overall (n=491,536)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Head/Face Concussion	59,351	19.7%	26,145	13.8%	85,495	17.4%
Ankle Strain/Sprain	35,558	11.8%	21,308	11.2%	56,865	11.6%
Knee Strain/Sprain	29,013	9.6%	11,209	5.9%	40,222	8.2%
Hand/Wrist Fracture	15,761	5.2%	12,062	6.4%	27,823	5.7%
Hip/Thigh/Upper Leg Strain/Sprain	9,025	3.0%	17,750	9.4%	26,775	5.4%
Knee Other	13,639	4.5%	10,811	5.7%	24,450	5.0%
Shoulder Other	14,987	5.0%	9,305	4.9%	24,292	4.9%
Shoulder Strain/Sprain	12,498	4.1%	7,520	4.0%	20,019	4.1%
Hand/Wrist Strain/Sprain	6,937	2.3%	8,002	4.2%	14,938	3.0%
Hip/Thigh/Upper Leg Contusion	10,557	3.5%	2,381	1.3%	12,938	2.6%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 3.2 Time Loss of Football Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 3.5 Football Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	31,779	10.7%	11,569	6.1%	43,347	8.9%
Did Not Require Surgery	266,087	89.3%	176,552	93.9%	442,639	91.1%
Total	***297,865***	***100.0%***	***188,121***	***100.0%***	***485,986***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 3.3 History of Football Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

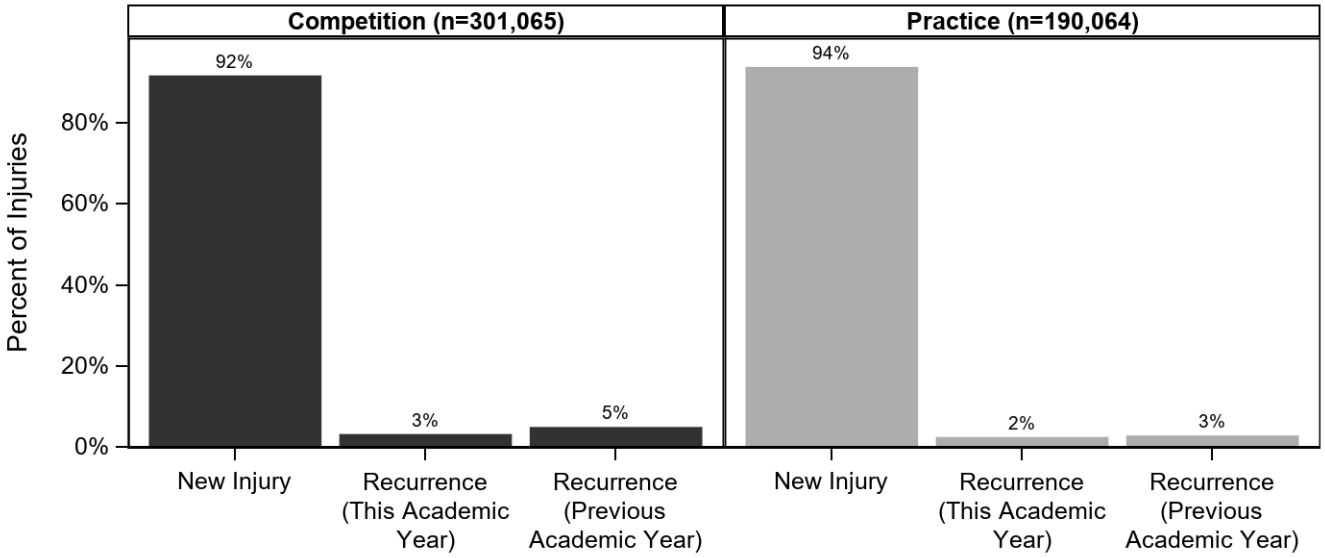


Table 3.6 Time during Season of Football Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	108,079	22.0%
Regular Season	352,325	71.9%
Post Season	29,758	6.1%
Unknown/Other	67	0.0%
Total	***490,229***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 3.7 Competition-Related Variables for Football Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	4,486	1.6%
First Quarter	36,027	12.9%
Second Quarter	82,666	29.5%
Third Quarter	86,184	30.7%
Fourth Quarter	70,623	25.2%
Overtime	295	0.1%
Total	***280,281***	***100.0%***

Field Location		
End Zone	4,703	1.7%
Red Zone (20 Yard Line to Goal Line)	45,618	16.2%
Between the 20 Yard Lines	149,864	53.1%
Off the Field	1,752	0.6%
Unknown	80,240	28.4%
Total	***282,177***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 3.8 Practice-Related Variables for Football Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	12,279	6.6%
Second 1/2 Hour	21,485	11.6%
1-2 Hours into Practice	104,153	56.3%
>2 Hours into Practice	12,082	6.5%
Unknown	34,849	18.9%
Total	***184,848***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 3.4 Player Position of Football Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

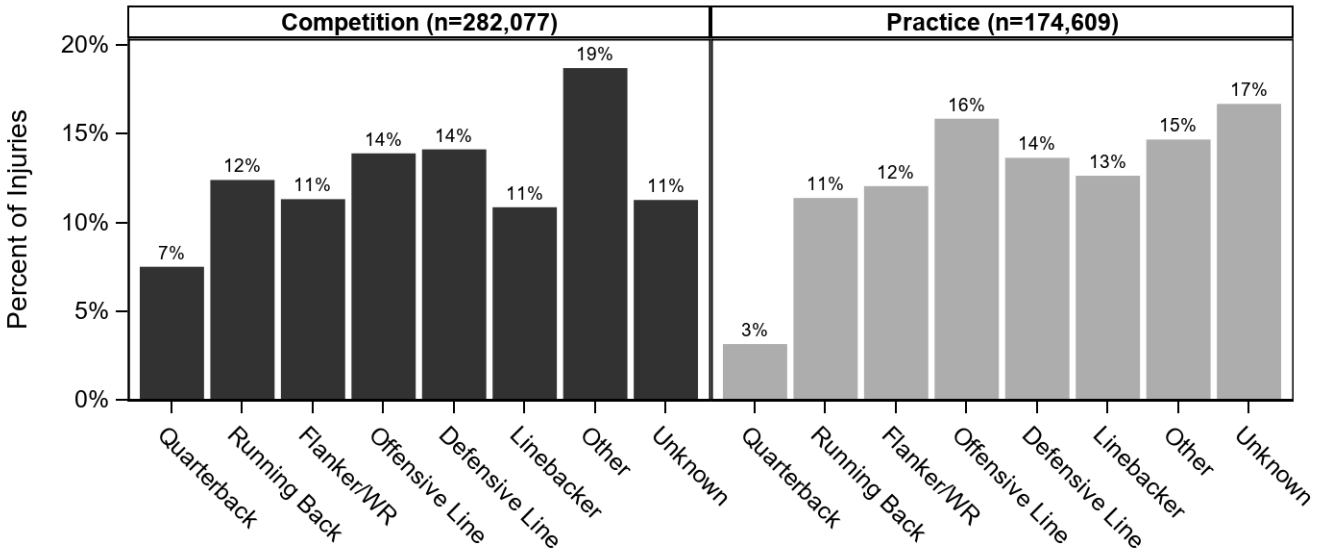


Table 3.9 Activities Leading to Football Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
Being Tackled	88,707	31.1%	21,803	12.1%	110,510	23.8%
Tackling	69,227	24.3%	31,773	17.6%	101,000	21.7%
Blocking	46,717	16.4%	22,501	12.5%	69,218	14.9%
Unknown	21,761	7.6%	19,286	10.7%	41,047	8.8%
Being Blocked	22,460	7.9%	12,013	6.7%	34,473	7.4%
N/A **	3,015	1.1%	31,108	17.3%	34,123	7.3%
Stepped On, Fell On or Kicked	12,300	4.3%	9,945	5.5%	22,245	4.8%
Rotation Around a Planted Foot/Inversion	10,368	3.6%	11,114	6.2%	21,482	4.6%
Other	8,091	2.8%	12,556	7.0%	20,647	4.4%
Contact with Ball	1,292	0.5%	2,525	1.4%	3,817	0.8%
Contact with Blocking Sled/Dummy	0	0.0%	3,299	1.8%	3,299	0.7%
Uneven Playing Surface	621	0.2%	2,111	1.2%	2,732	0.6%
Contact with Seats, Bleacher or Table	621	0.2%	0	0.0%	621	0.1%
Total	***285,181***	***100.0%***	***180,034***	***100.0%***	***465,215***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.
** Includes overuse, heat illness, conditioning, etc.

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Table 3.10 Activity Resulting in Football Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Diagnosis									
	Strain/Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Being Blocked	11,536	6.2%	4,394	9.0%	3,633	6.0%	11,550	15.0%	3,360	3.7%
Being Tackled	39,788	21.4%	19,193	39.3%	15,682	25.7%	25,559	33.2%	10,288	11.2%
Blocking	32,317	17.3%	5,119	10.5%	7,558	12.4%	10,677	13.9%	13,547	14.8%
Contact with Ball	942	0.5%	253	0.5%	1,837	3.0%	0	0.0%	785	0.9%
Contact with Blocking Sled/Dummy	1,097	0.6%	0	0.0%	969	1.6%	0	0.0%	1,234	1.3%
Contact with Seats, Bleacher or Table	0	0.0%	0	0.0%	621	1.0%	0	0.0%	0	0.0%
N/A **	11,866	6.4%	295	0.6%	722	1.2%	0	0.0%	21,240	23.2%
Other	9,777	5.2%	1,325	2.7%	4,767	7.8%	1,296	1.7%	3,415	3.7%
Rotation Around a Planted Foot/Inversion	17,534	9.4%	841	1.7%	362	0.6%	0	0.0%	2,745	3.0%
Stepped On, Fell On or Kicked	10,108	5.4%	5,568	11.4%	4,775	7.8%	295	0.4%	1,498	1.6%
Tackling	35,303	19.0%	8,955	18.3%	14,014	23.0%	20,670	26.9%	22,057	24.1%
Uneven Playing Surface	755	0.4%	0	0.0%	1,243	2.0%	0	0.0%	734	0.8%
Unknown	15,256	8.2%	2,923	6.0%	4,731	7.8%	6,931	9.0%	10,584	11.6%
Total	***186,281***	***100.0%***	***48,867***	***100.0%***	***60,914***	***100.0%***	***76,977***	***100.0%***	***91,487***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.
** Includes overuse, heat illness, conditioning, etc.

IV. Boys' Soccer Injury Epidemiology

Table 4.1 Boys' Soccer Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***345***	***171,426***	***2.01***	***206,216***
Competition	234	55,675	4.20	129,916
Practice	111	115,751	0.96	76,300

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 4.2 Demographic Characteristics of Injured Boys' Soccer Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	44,236	22.3%
Sophomore	44,461	22.4%
Junior	39,362	19.9%
Senior	70,139	35.4%
Total	***198,198***	***100.0%***

Age (years)	
Minimum	13
Maximum	18
Mean (SD)	16.0 (1.3)
n	175,376

BMI	
Minimum	16.3
Maximum	33.9
Mean (SD)	22.5 (2.7)
n	146,315

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 4.1 Diagnosis of Boys' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

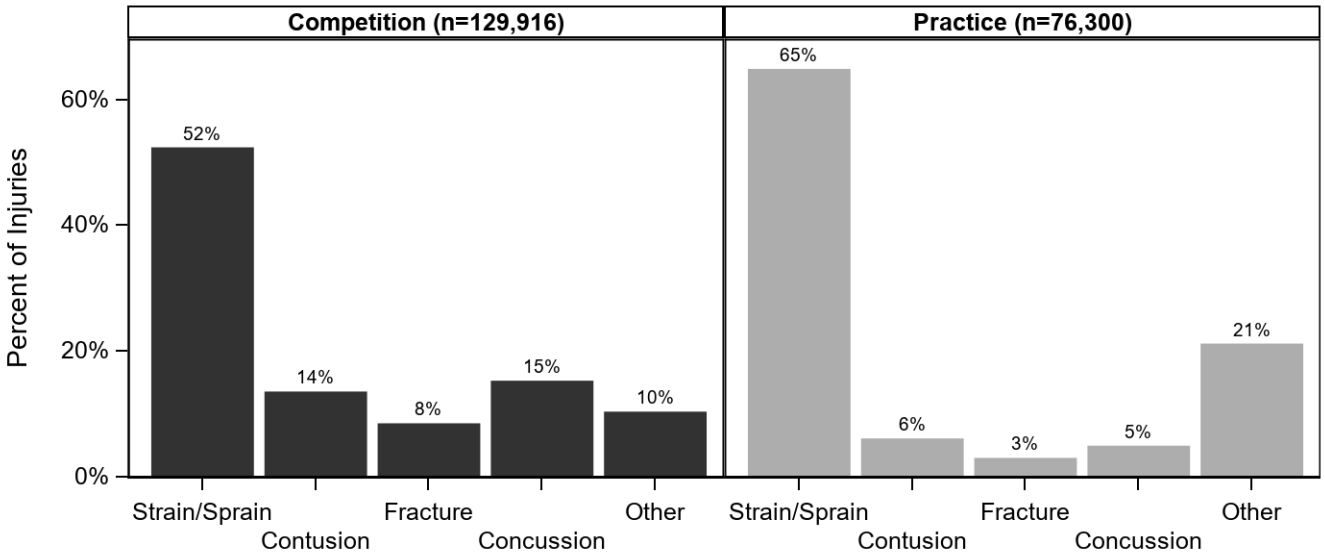


Table 4.3 Body Site of Boys' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Hip/Thigh/Upper Leg	24,047	18.5%	23,950	31.4%	47,997	23.3%
Ankle	33,402	25.7%	12,964	17.0%	46,365	22.5%
Head/Face	24,985	19.2%	6,169	8.1%	31,154	15.1%
Knee	19,169	14.8%	10,779	14.1%	29,947	14.5%
Foot	9,893	7.6%	4,953	6.5%	14,846	7.2%
Lower Leg	7,528	5.8%	6,404	8.4%	13,932	6.8%
Hand/Wrist	3,926	3.0%	2,954	3.9%	6,879	3.3%
Trunk	678	0.5%	4,716	6.2%	5,394	2.6%
Shoulder	2,158	1.7%	1,900	2.5%	4,058	2.0%
Arm/Elbow	2,874	2.2%	1,093	1.4%	3,967	1.9%
Systemic	1,203	0.9%	161	0.2%	1,364	0.7%
Other	0	0.0%	258	0.3%	258	0.1%
Neck	55	0.0%	0	0.0%	55	0.0%
Total	***129,916***	***100.0%***	***76,300***	***100.0%***	***206,217***	***100.0%***

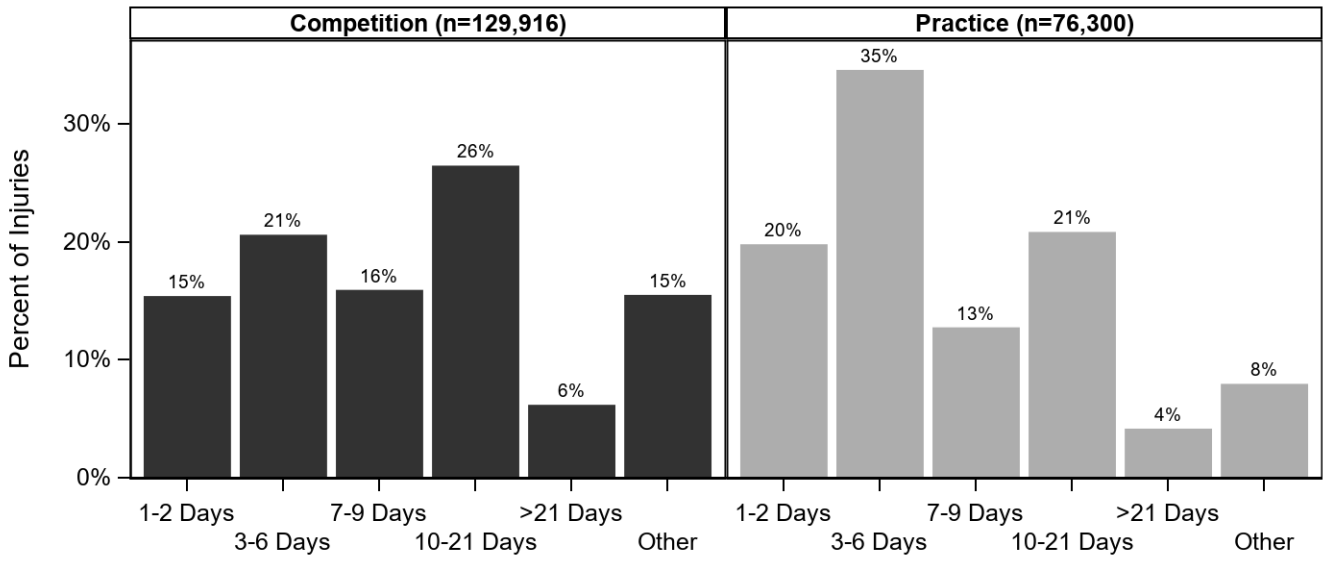
* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 4.4 Ten Most Common Boys' Soccer Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=129,916)		Practice (n=76,301)		Overall (n=206,217)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Ankle Strain/Sprain	30,408	23.4%	12,032	15.8%	42,439	20.6%
Hip/Thigh/Upper Leg Strain/Sprain	19,064	14.7%	21,931	28.7%	40,995	19.9%
Head/Face Concussion	19,831	15.3%	3,763	4.9%	23,595	11.4%
Knee Other	7,621	5.9%	6,753	8.9%	14,374	7.0%
Knee Strain/Sprain	7,135	5.5%	2,823	3.7%	9,958	4.8%
Lower Leg Strain/Sprain	4,866	3.7%	3,066	4.0%	7,932	3.8%
Hip/Thigh/Upper Leg Contusion	4,983	3.8%	1,581	2.1%	6,564	3.2%
Knee Contusion	4,412	3.4%	1,203	1.6%	5,615	2.7%
Foot Strain/Sprain	3,173	2.4%	2,135	2.8%	5,308	2.6%
Hand/Wrist Strain/Sprain	1,655	1.3%	2,460	3.2%	4,115	2.0%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 4.2 Time Loss of Boys' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 4.5 Boys' Soccer Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	1,675	1.3%	858	1.1%	2,533	1.2%
Did Not Require Surgery	126,518	98.7%	74,239	98.9%	200,758	98.8%
Total	***128,193***	***100.0%***	***75,098***	***100.0%***	***203,291***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 4.3 History of Boys' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

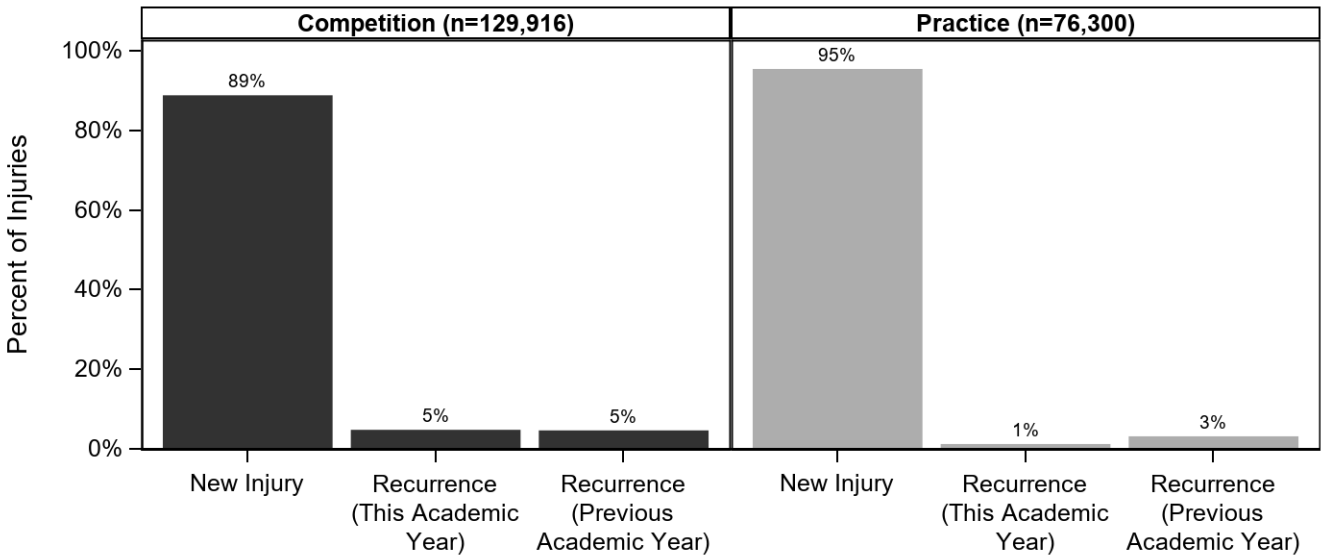


Table 4.6 Time during Season of Boys' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	52,720	25.6%
Regular Season	138,437	67.1%
Post Season	15,005	7.3%
Total	***206,162***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 4.7 Competition-Related Variables for Boys' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	2,145	1.7%
First Half	33,495	26.9%
Second Half	65,158	52.3%
Unknown	23,687	19.0%
Total	***124,485***	***100.0%***

Field Location		
Goal Box (Defense)	10,564	8.7%
Goal Box (Offense)	5,097	4.2%
Side of Goal Box (Defense)	8,086	6.6%
Side of Goal Box (Offense)	6,948	5.7%
Top of Goal Box Extended to Center Line (Offense)	28,953	23.7%
Top of Goal Box Extended to Center Line (Defense)	16,479	13.5%
Off the Field	943	0.8%
Unknown	45,005	36.9%
Total	***122,075***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 4.8 Practice-Related Variables for Boys' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	5,905	7.9%
Second 1/2 Hour	8,853	11.9%
1-2 Hours into Practice	44,954	60.3%
>2 Hours into Practice	932	1.2%
Unknown	13,960	18.7%
Total	***74,604***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 4.4 Player Position of Boys' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

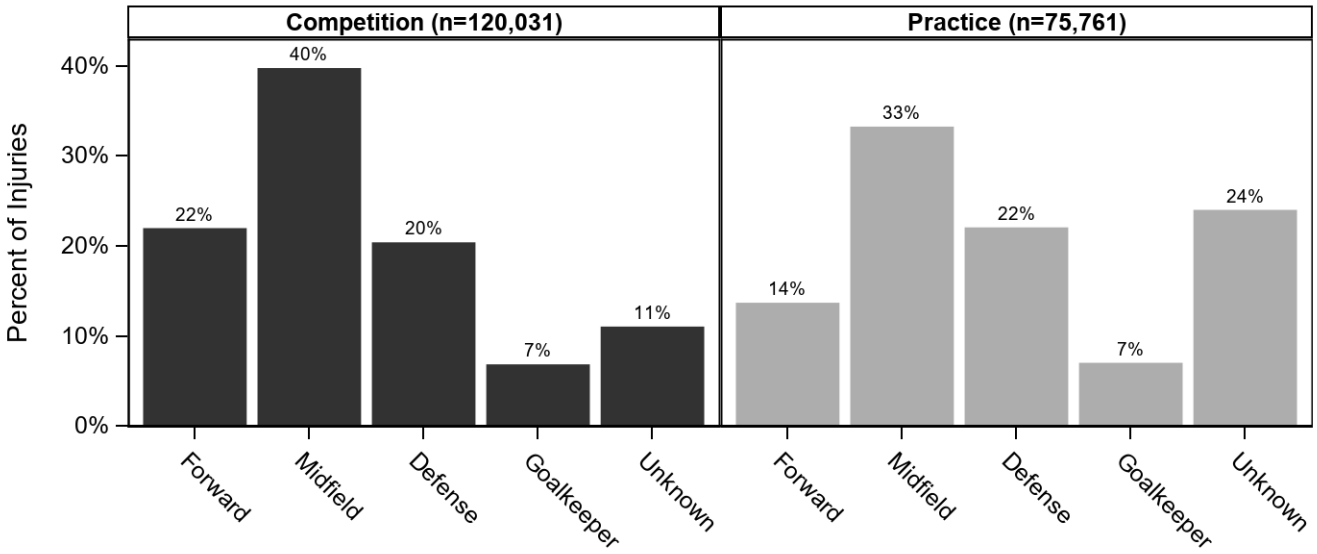


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Table 4.9 Activities Leading to Boys' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
General Play	34,097	27.4%	27,238	36.0%	61,335	30.7%
Unknown	13,342	10.7%	5,905	7.8%	19,247	9.6%
Defending	16,747	13.5%	1,532	2.0%	18,279	9.1%
Shooting	9,199	7.4%	7,411	9.8%	16,611	8.3%
Ball Handling/Dribbling	10,895	8.8%	3,019	4.0%	13,914	7.0%
Chasing Loose Ball	6,756	5.4%	5,589	7.4%	12,345	6.2%
Conditioning	258	0.2%	11,983	15.8%	12,241	6.1%
Heading Ball	9,681	7.8%	2,038	2.7%	11,720	5.9%
Goaltending	6,818	5.5%	4,371	5.8%	11,189	5.6%
Passing	3,503	2.8%	2,135	2.8%	5,638	2.8%
Attempting a Slide Tackle	5,472	4.4%	0	0.0%	5,472	2.7%
Other	2,020	1.6%	3,337	4.4%	5,357	2.7%
Receiving a Slide Tackle	3,341	2.7%	0	0.0%	3,341	1.7%
Receiving Pass	1,652	1.3%	1,203	1.6%	2,855	1.4%
Blocking Shot	439	0.4%	0	0.0%	439	0.2%
Total	***124,221***	***100.0%***	***75,761***	***100.0%***	***199,982***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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Table 4.10 Activity Resulting in Boys' Soccer Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Diagnosis									
	Strain/Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Attempting a Slide Tackle	4,269	3.7%	0	0.0%	0	0.0%	0	0.0%	1,203	4.1%
Ball Handling/Dribbling	9,333	8.1%	1,726	8.2%	739	5.6%	1,641	7.5%	475	1.6%
Blocking Shot	439	0.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Chasing Loose Ball	6,884	6.0%	1,616	7.7%	1,629	12.4%	1,778	8.2%	439	1.5%
Conditioning	6,595	5.7%	0	0.0%	0	0.0%	0	0.0%	5,646	19.4%
Defending	7,435	6.5%	2,278	10.8%	2,609	19.8%	3,216	14.8%	2,741	9.4%
General Play	36,842	32.1%	6,541	31.1%	3,732	28.4%	936	4.3%	13,283	45.6%
Goaltending	3,771	3.3%	1,419	6.8%	493	3.8%	5,247	24.1%	258	0.9%
Heading Ball	2,970	2.6%	1,600	7.6%	1,600	12.2%	5,550	25.5%	0	0.0%
Other	5,196	4.5%	0	0.0%	161	1.2%	0	0.0%	0	0.0%
Passing	4,076	3.5%	439	2.1%	439	3.3%	0	0.0%	684	2.4%
Receiving Pass	1,858	1.6%	258	1.2%	0	0.0%	684	3.1%	55	0.2%
Receiving a Slide Tackle	877	0.8%	161	0.8%	932	7.1%	0	0.0%	1,370	4.7%
Shooting	13,657	11.9%	1,258	6.0%	0	0.0%	0	0.0%	1,696	5.8%
Unknown	10,747	9.3%	3,716	17.7%	819	6.2%	2,710	12.5%	1,255	4.3%
Total	***114,949***	***100.0%***	***21,011***	***100.0%***	***13,154***	***100.0%***	***21,762***	***100.0%***	***29,105***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

V. Girls' Soccer Injury Epidemiology

Table 5.1 Girls' Soccer Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***377***	***133,769***	***2.82***	***230,933***
Competition	262	42,397	6.18	153,973
Practice	115	91,372	1.26	76,960

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 5.2 Demographic Characteristics of Injured Girls' Soccer Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	52,353	24.4%
Sophomore	62,050	28.9%
Junior	60,378	28.1%
Senior	39,743	18.5%
Total	***214,525***	***100.0%***

Age (years)	
Minimum	13
Maximum	18
Mean (SD)	15.7 (1.2)
n	180,123

BMI	
Minimum	15.0
Maximum	35.9
Mean (SD)	22.1 (3.4)
n	129,604

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 5.1 Diagnosis of Girls' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

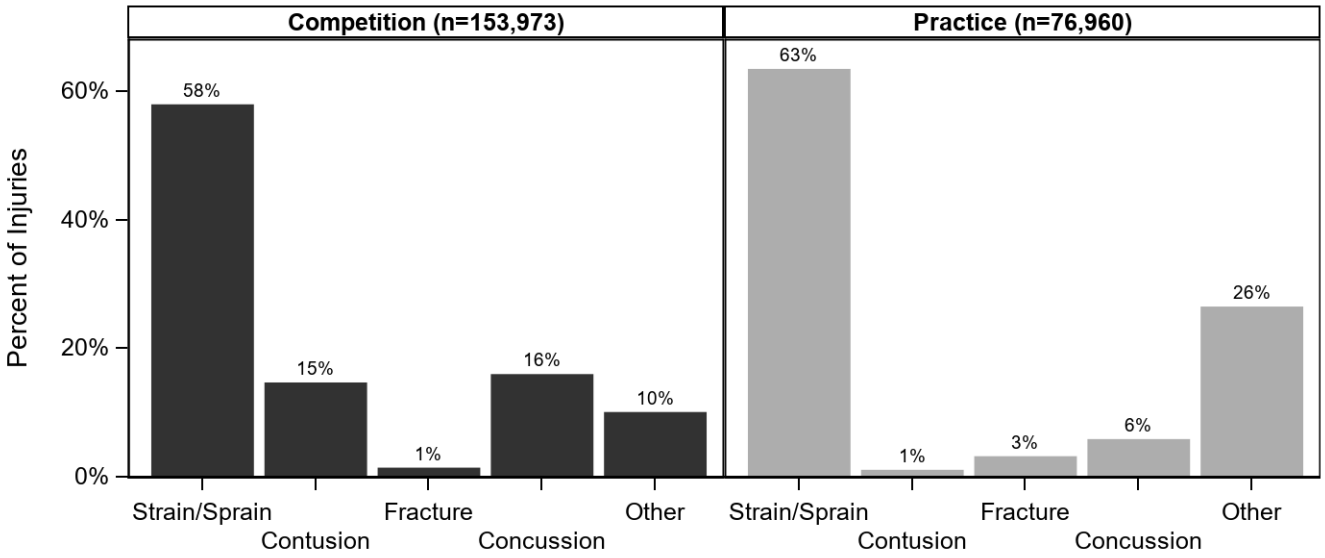


Table 5.3 Body Site of Girls' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Ankle	44,744	29.1%	21,719	28.2%	66,464	28.8%
Hip/Thigh/Upper Leg	21,821	14.2%	20,419	26.5%	42,240	18.3%
Knee	28,320	18.4%	9,826	12.8%	38,146	16.5%
Head/Face	26,955	17.5%	4,504	5.9%	31,459	13.6%
Lower Leg	7,528	4.9%	11,088	14.4%	18,615	8.1%
Trunk	8,981	5.8%	476	0.6%	9,457	4.1%
Hand/Wrist	5,435	3.5%	3,305	4.3%	8,740	3.8%
Foot	4,417	2.9%	3,623	4.7%	8,040	3.5%
Arm/Elbow	2,781	1.8%	0	0.0%	2,781	1.2%
Systemic	0	0.0%	2,001	2.6%	2,001	0.9%
Neck	1,498	1.0%	0	0.0%	1,498	0.6%
Shoulder	973	0.6%	0	0.0%	973	0.4%
Other	519	0.3%	0	0.0%	519	0.2%
Total	***153,973***	***100.0%***	***76,960***	***100.0%***	***230,933***	***100.0%***

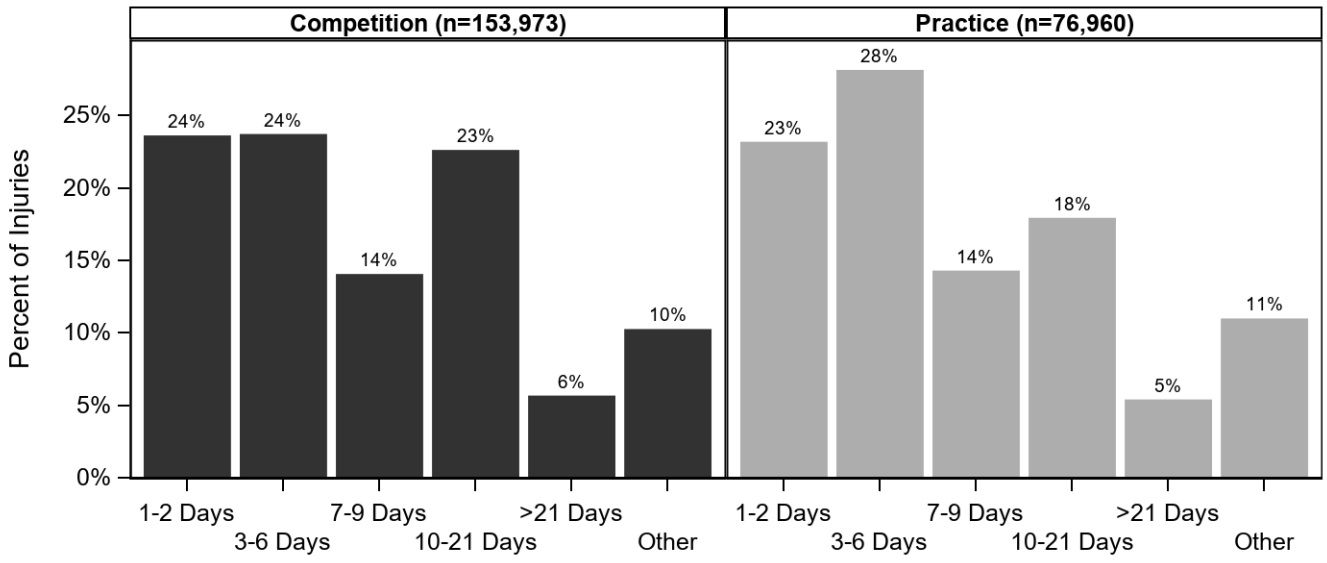
* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 5.4 Ten Most Common Girls' Soccer Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=153,975)		Practice (n=76,960)		Overall (n=230,934)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Ankle Strain/Sprain	42,636	27.7%	21,536	28.0%	64,172	27.8%
Hip/Thigh/Upper Leg Strain/Sprain	19,232	12.5%	17,427	22.6%	36,659	15.9%
Head/Face Concussion	24,572	16.0%	4,504	5.9%	29,076	12.6%
Knee Strain/Sprain	11,038	7.2%	2,994	3.9%	14,032	6.1%
Knee Other	7,085	4.6%	6,832	8.9%	13,916	6.0%
Knee Contusion	9,587	6.2%	0	0.0%	9,587	4.2%
Lower Leg Strain/Sprain	5,576	3.6%	3,418	4.4%	8,994	3.9%
Lower Leg Other	183	0.1%	7,670	10.0%	7,853	3.4%
Trunk Strain/Sprain	5,181	3.4%	476	0.6%	5,656	2.4%
Hip/Thigh/Upper Leg Other	1,650	1.1%	2,992	3.9%	4,642	2.0%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 5.2 Time Loss of Girls' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 5.5 Girls' Soccer Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	5,766	3.7%	1,643	2.1%	7,409	3.2%
Did Not Require Surgery	148,024	96.3%	75,317	97.9%	223,341	96.8%
Total	***153,790***	***100.0%***	***76,960***	***100.0%***	***230,750***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 5.3 History of Girls' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

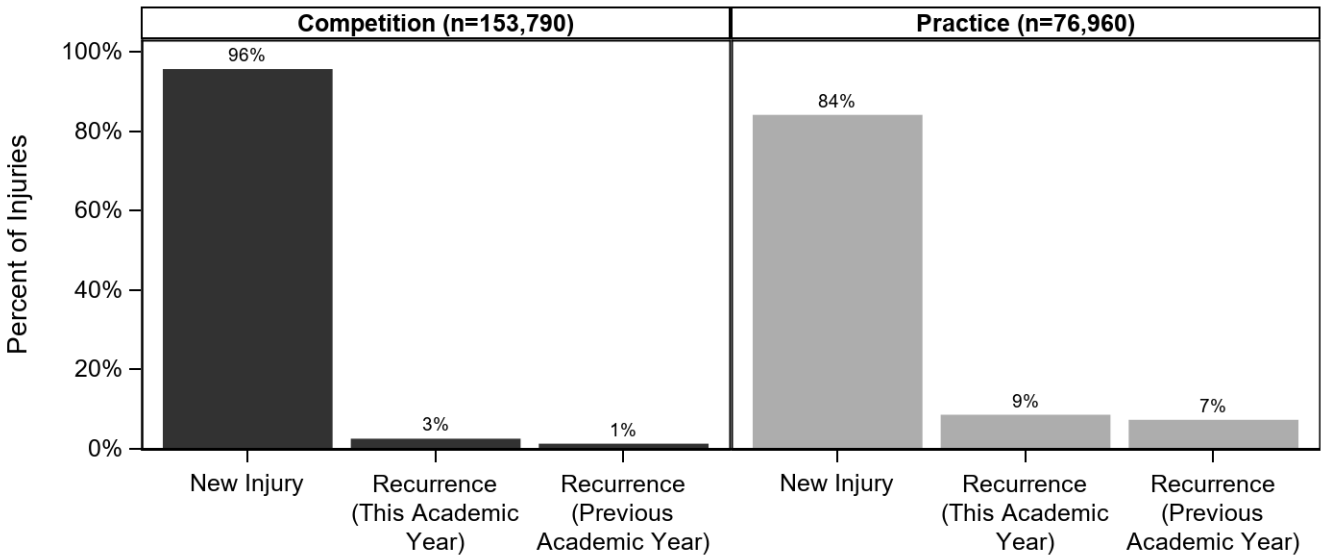


Table 5.6 Time during Season of Girls' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	40,280	17.4%
Regular Season	176,882	76.6%
Post Season	13,771	6.0%
Total	***230,933***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 5.7 Competition-Related Variables for Girls' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	2,272	1.5%
First Half	42,537	28.8%
Second Half	78,056	52.9%
Unknown	24,798	16.8%
Total	***147,663***	***100.0%***

Field Location		
Goal Box (Defense)	15,626	10.6%
Goal Box (Offense)	9,955	6.8%
Side of Goal Box (Defense)	4,504	3.1%
Side of Goal Box (Offense)	11,392	7.7%
Top of Goal Box Extended to Center Line (Offense)	29,401	20.0%
Top of Goal Box Extended to Center Line (Defense)	22,706	15.4%
Off the Field	1,758	1.2%
Unknown	51,823	35.2%
Total	***147,165***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 5.8 Practice-Related Variables for Girls' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	5,748	7.5%
Second 1/2 Hour	9,453	12.4%
1-2 Hours into Practice	36,618	48.1%
>2 Hours into Practice	665	0.9%
Unknown	23,645	31.1%
Total	***76,130***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 5.4 Player Position of Girls' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

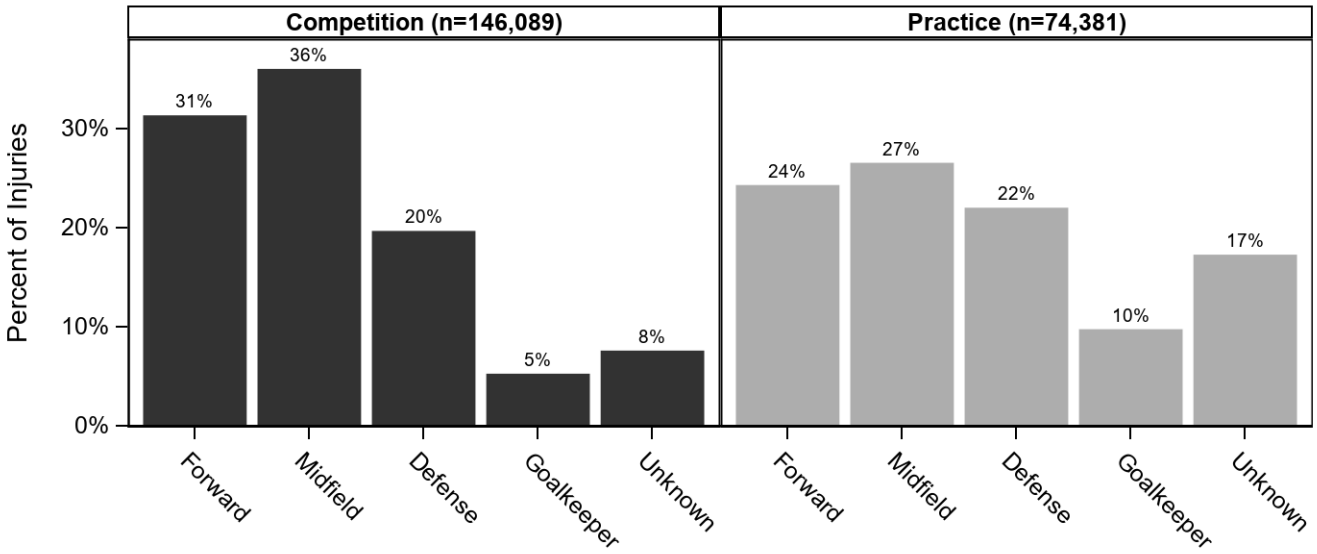


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Table 5.9 Activities Leading to Girls' Soccer Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
General Play	46,880	31.7%	26,848	36.1%	73,728	33.1%
Defending	25,781	17.4%	5,392	7.2%	31,173	14.0%
Unknown	13,366	9.0%	12,015	16.2%	25,380	11.4%
Ball Handling/Dribbling	16,514	11.2%	4,546	6.1%	21,060	9.5%
Chasing Loose Ball	15,736	10.6%	3,845	5.2%	19,582	8.8%
Passing	6,006	4.1%	5,420	7.3%	11,426	5.1%
Conditioning	1,498	1.0%	6,992	9.4%	8,490	3.8%
Goaltending	4,098	2.8%	3,180	4.3%	7,278	3.3%
Shooting	3,729	2.5%	3,115	4.2%	6,844	3.1%
Blocking Shot	4,400	3.0%	1,866	2.5%	6,266	2.8%
Heading Ball	3,620	2.4%	848	1.1%	4,469	2.0%
Receiving Pass	2,730	1.8%	0	0.0%	2,730	1.2%
Attempting a Slide Tackle	2,233	1.5%	0	0.0%	2,233	1.0%
Receiving a Slide Tackle	1,498	1.0%	0	0.0%	1,498	0.7%
Other	0	0.0%	314	0.4%	314	0.1%
Total	***148,090***	***100.0%***	***74,381***	***100.0%***	***222,471***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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Table 5.10 Activity Resulting in Girls' Soccer Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Diagnosis									
	Strain/Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Attempting a Slide Tackle	1,758	1.3%	0	0.0%	0	0.0%	0	0.0%	476	1.4%
Ball Handling/Dribbling	15,437	11.3%	3,942	17.6%	1,498	32.4%	0	0.0%	183	0.5%
Blocking Shot	1,697	1.2%	0	0.0%	611	13.2%	3,958	15.3%	0	0.0%
Chasing Loose Ball	11,600	8.5%	4,289	19.1%	1,086	23.5%	443	1.7%	2,164	6.5%
Conditioning	6,659	4.9%	0	0.0%	0	0.0%	0	0.0%	1,832	5.5%
Defending	20,335	14.9%	2,294	10.2%	957	20.7%	3,515	13.6%	4,073	12.2%
General Play	47,650	35.0%	7,792	34.8%	0	0.0%	4,532	17.6%	13,754	41.0%
Goaltending	2,234	1.6%	443	2.0%	238	5.1%	2,811	10.9%	1,553	4.6%
Heading Ball	0	0.0%	0	0.0%	0	0.0%	4,469	17.3%	0	0.0%
Other	259	0.2%	0	0.0%	0	0.0%	0	0.0%	55	0.2%
Passing	8,203	6.0%	1,249	5.6%	0	0.0%	0	0.0%	1,974	5.9%
Receiving Pass	680	0.5%	238	1.1%	0	0.0%	1,628	6.3%	183	0.5%
Receiving a Slide Tackle	1,498	1.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Shooting	4,590	3.4%	1,643	7.3%	0	0.0%	0	0.0%	611	1.8%
Unknown	13,508	9.9%	530	2.4%	238	5.1%	4,443	17.2%	6,661	19.9%
Total	***136,108***	***100.0%***	***22,419***	***100.0%***	***4,627***	***100.0%***	***25,799***	***100.0%***	***33,518***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

VI. Girls' Volleyball Injury Epidemiology

Table 6.1 Girls' Volleyball Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***204***	***152,029***	***1.34***	***74,542***
Competition	107	54,700	1.96	37,504
Practice	97	97,329	1.00	37,038

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 6.2 Demographic Characteristics of Injured Girls' Volleyball Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	22,466	31.2%
Sophomore	19,284	26.8%
Junior	17,455	24.2%
Senior	12,775	17.7%
Total	***71,980***	***100.0%***

Age (years)	
Minimum	13
Maximum	18
Mean (SD)	15.4 (1.2)
n	57,454

BMI	
Minimum	16.3
Maximum	30.9
Mean (SD)	22.0 (2.9)
n	39,739

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 6.1 Diagnosis of Girls' Volleyball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

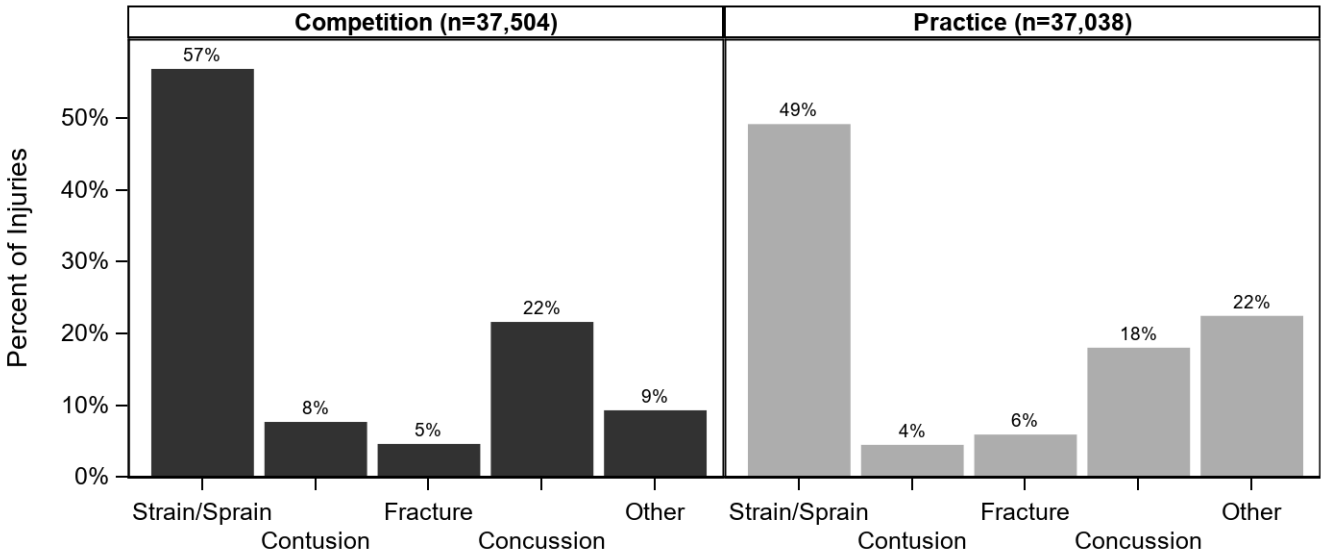

Table 6.3 Body Site of Girls' Volleyball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Ankle	13,777	36.7%	9,031	24.4%	22,807	30.6%
Head/Face	8,542	22.8%	9,015	24.3%	17,557	23.6%
Shoulder	3,978	10.6%	5,884	15.9%	9,862	13.2%
Hand/Wrist	3,842	10.2%	4,243	11.5%	8,085	10.8%
Knee	3,699	9.9%	2,701	7.3%	6,399	8.6%
Arm/Elbow	742	2.0%	1,648	4.4%	2,390	3.2%
Hip/Thigh/Upper Leg	1,146	3.1%	906	2.4%	2,052	2.8%
Foot	1,028	2.7%	742	2.0%	1,770	2.4%
Trunk	678	1.8%	1,052	2.8%	1,731	2.3%
Lower Leg	0	0.0%	742	2.0%	742	1.0%
Other	0	0.0%	742	2.0%	742	1.0%
Systemic	73	0.2%	227	0.6%	300	0.4%
Neck	0	0.0%	104	0.3%	104	0.1%
Total	***37,504***	***100.0%***	***37,038***	***100.0%***	***74,542***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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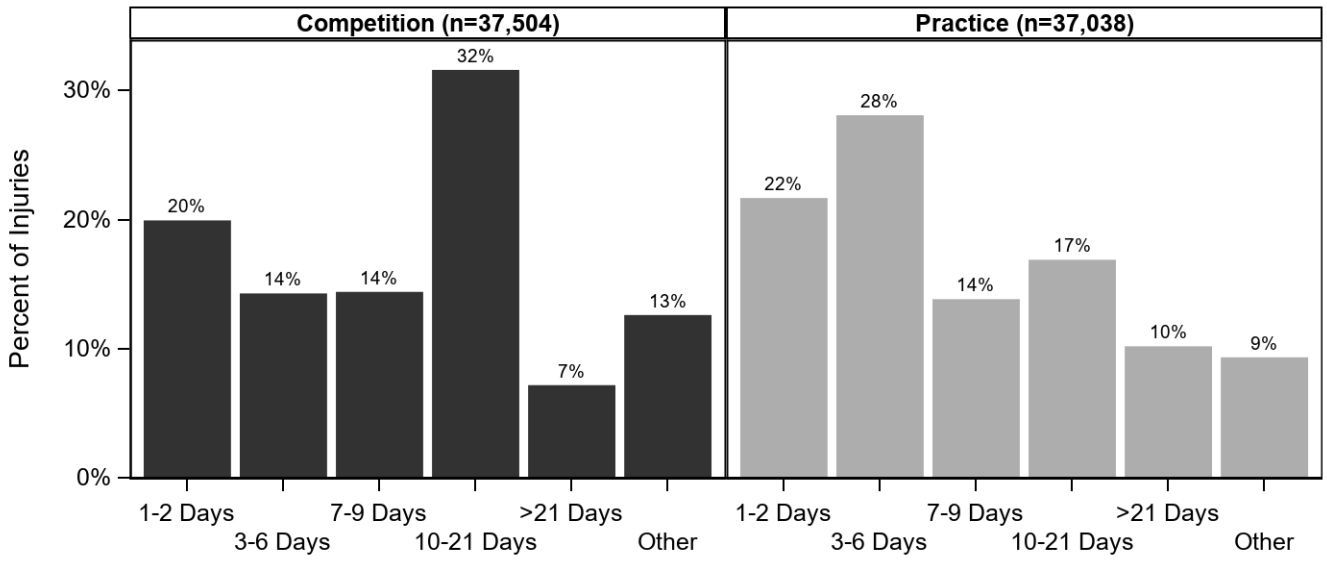
Table 6.4 Ten Most Common Girls' Volleyball Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=37,502)		Practice (n=37,035)		Overall (n=74,538)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Ankle Strain/Sprain	12,165	32.4%	7,774	21.0%	19,939	26.8%
Head/Face Concussion	8,101	21.6%	6,669	18.0%	14,771	19.8%
Hand/Wrist Strain/Sprain	3,140	8.4%	3,255	8.8%	6,395	8.6%
Shoulder Strain/Sprain	2,801	7.5%	3,585	9.7%	6,386	8.6%
Shoulder Other	1,177	3.1%	2,299	6.2%	3,476	4.7%
Knee Strain/Sprain	1,805	4.8%	1,242	3.4%	3,047	4.1%
Knee Other	1,152	3.1%	1,251	3.4%	2,403	3.2%
Ankle Fracture	1,612	4.3%	514	1.4%	2,126	2.9%
Arm/Elbow Other	742	2.0%	970	2.6%	1,712	2.3%
Hip/Thigh/Upper Leg Strain/Sprain	919	2.5%	331	0.9%	1,250	1.7%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 6.2 Time Loss of Girls' Volleyball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 6.5 Girls' Volleyball Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	1,593	4.4%	0	0.0%	1,593	2.2%
Did Not Require Surgery	34,884	95.6%	37,038	100.0%	71,922	97.8%
Total	***36,476***	***100.0%***	***37,038***	***100.0%***	***73,514***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 6.3 History of Girls' Volleyball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

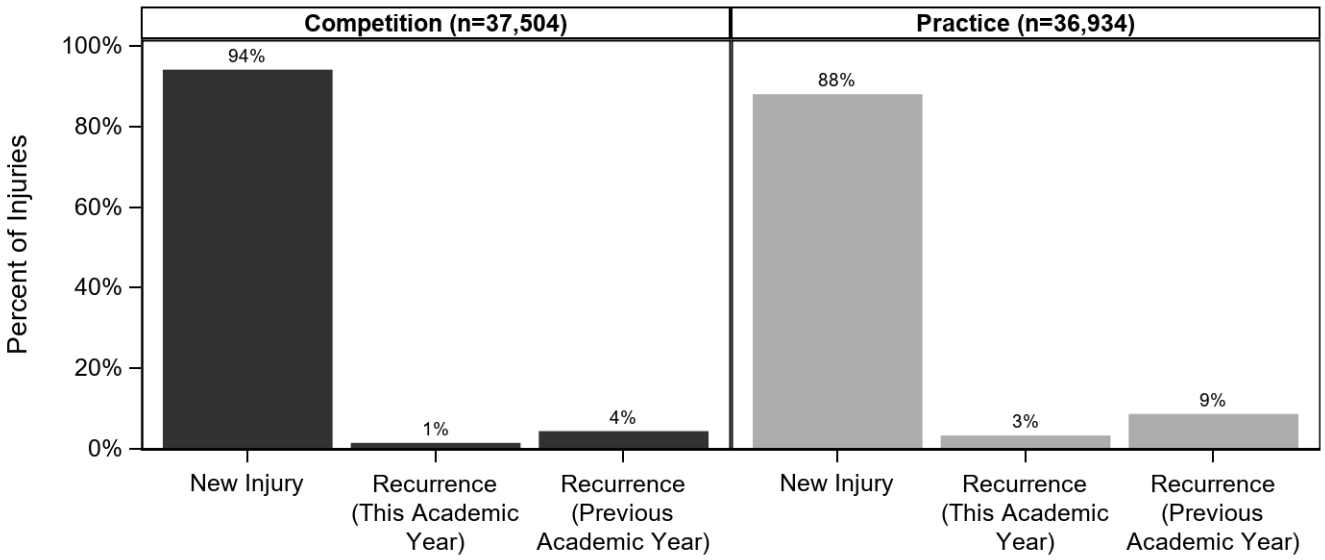


Table 6.6 Time during Season of Girls' Volleyball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	13,362	17.9%
Regular Season	59,697	80.1%
Post Season	1,484	2.0%
Total	***74,542***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 6.7 Competition-Related Variables for Girls' Volleyball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	4,251	12.3%
First Game	3,390	9.8%
Second Game	7,533	21.8%
Third Game	6,092	17.7%
Fifth Game	227	0.7%
Unknown	12,984	37.7%
Total	***34,478***	***100.0%***

Court Location		
Right Back (Server)	1,237	3.6%
Right Forward	4,965	14.5%
Outside Court (Your Side)	702	2.0%
Middle Forward	3,684	10.8%
Left Forward	2,360	6.9%
Left Back	4,820	14.1%
Outside the Playable Area	1,862	5.4%
At the Net	3,150	9.2%
Unknown	11,470	33.5%
Total	***34,250***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 6.8 Practice-Related Variables for Girls' Volleyball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	4,157	11.7%
Second 1/2 Hour	4,867	13.7%
1-2 Hours into Practice	16,613	46.9%
>2 Hours into Practice	1,222	3.4%
Unknown	8,587	24.2%
Total	***35,445***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 6.4 Player Position of Girls' Volleyball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

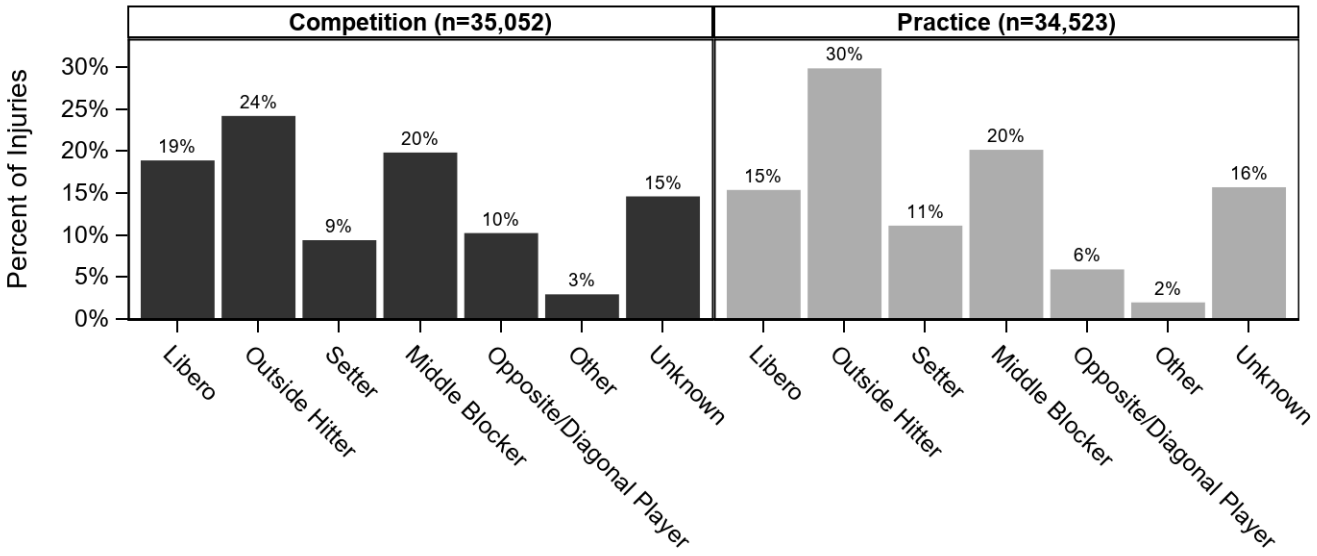


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Table 6.9 Activities Leading to Girls' Volleyball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
General Play	7,734	22.1%	9,740	28.2%	17,474	25.1%
Blocking	8,273	23.6%	5,626	16.3%	13,899	20.0%
Digging	6,229	17.8%	1,729	5.0%	7,958	11.4%
Unknown	3,675	10.5%	3,897	11.3%	7,573	10.9%
Passing	2,028	5.8%	4,453	12.9%	6,481	9.3%
Spiking	1,715	4.9%	3,809	11.0%	5,524	7.9%
Serving	1,547	4.4%	2,189	6.3%	3,736	5.4%
Other	2,605	7.4%	929	2.7%	3,534	5.1%
Setting	1,246	3.6%	1,676	4.9%	2,922	4.2%
Conditioning	0	0.0%	474	1.4%	474	0.7%
Total	***35,052***	***100.0%***	***34,523***	***100.0%***	***69,575***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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Table 6.10 Activity Resulting in Girls' Volleyball Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Diagnosis									
	Strain/Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Blocking	9,778	26.3%	1,360	34.5%	1,385	37.5%	802	5.5%	574	5.7%
Conditioning	474	1.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Digging	2,576	6.9%	1,652	41.9%	0	0.0%	2,760	18.8%	970	9.6%
General Play	7,696	20.7%	227	5.8%	1,028	27.9%	5,579	38.0%	2,943	29.3%
Other	1,216	3.3%	227	5.8%	0	0.0%	1,543	10.5%	547	5.4%
Passing	2,762	7.4%	0	0.0%	474	12.9%	2,909	19.8%	336	3.3%
Serving	1,379	3.7%	474	12.0%	0	0.0%	227	1.6%	1,656	16.5%
Setting	2,116	5.7%	0	0.0%	0	0.0%	0	0.0%	806	8.0%
Spiking	4,248	11.4%	0	0.0%	227	6.2%	0	0.0%	1,048	10.4%
Unknown	4,974	13.4%	0	0.0%	574	15.6%	846	5.8%	1,178	11.7%
Total	***37,220***	***100.0%***	***3,941***	***100.0%***	***3,689***	***100.0%***	***14,667***	***100.0%***	***10,058***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

VII. Boys' Basketball Injury Epidemiology

Table 7.1 Boys' Basketball Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***294***	***182,109***	***1.61***	***96,736***
Competition	149	58,184	2.56	50,811
Practice	145	123,925	1.17	45,925

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 7.2 Demographic Characteristics of Injured Boys' Basketball Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	22,451	23.5%
Sophomore	20,951	21.9%
Junior	22,176	23.2%
Senior	29,959	31.4%
Total	***95,537***	***100.0%***

Age (years)	
Minimum	14
Maximum	19
Mean (SD)	16.1 (1.3)
n	78,535

BMI	
Minimum	15.8
Maximum	34.7
Mean (SD)	23.0 (3.3)
n	61,053

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 7.1 Diagnosis of Boys' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

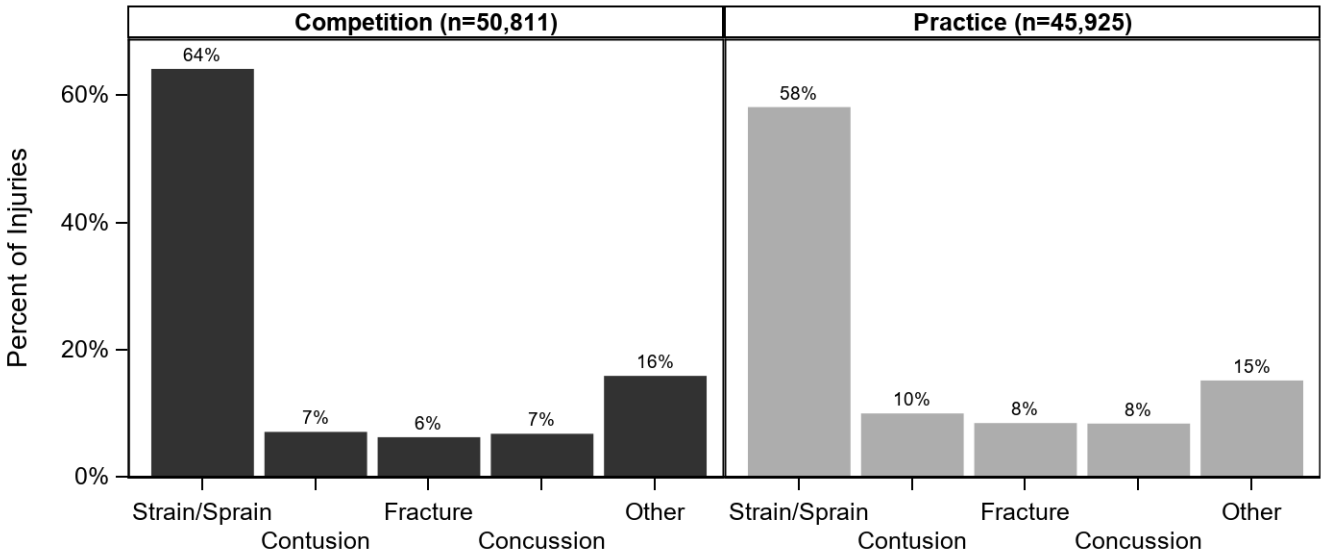


Table 7.3 Body Site of Boys' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Ankle	20,563	40.5%	18,109	39.4%	38,672	40.0%
Head/Face	6,444	12.7%	7,040	15.3%	13,485	13.9%
Hip/Thigh/Upper Leg	3,995	7.9%	6,234	13.6%	10,229	10.6%
Knee	5,538	10.9%	4,415	9.6%	9,954	10.3%
Hand/Wrist	5,105	10.0%	2,807	6.1%	7,912	8.2%
Trunk	2,109	4.2%	1,731	3.8%	3,840	4.0%
Lower Leg	1,187	2.3%	2,177	4.7%	3,364	3.5%
Foot	1,672	3.3%	1,433	3.1%	3,105	3.2%
Shoulder	2,076	4.1%	0	0.0%	2,076	2.1%
Systemic	743	1.5%	948	2.1%	1,691	1.7%
Other	689	1.4%	940	2.0%	1,629	1.7%
Arm/Elbow	689	1.4%	90	0.2%	780	0.8%
Total	***50,811***	***100.0%***	***45,925***	***100.0%***	***96,736***	***100.0%***

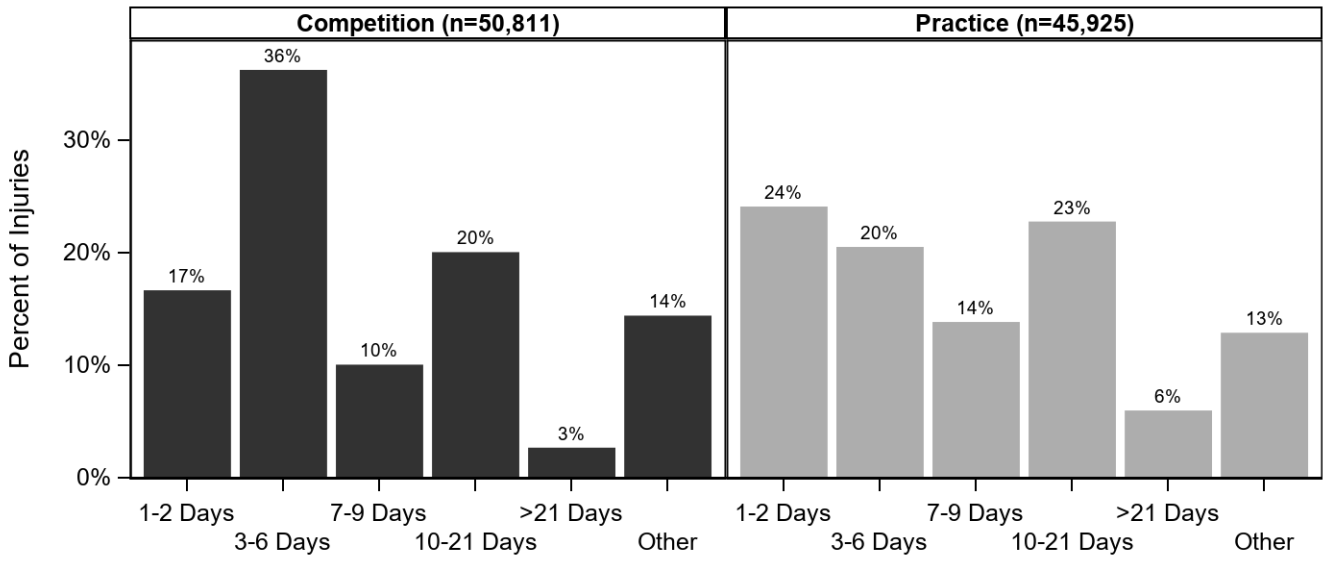
* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 7.4 Ten Most Common Boys' Basketball Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=50,808)		Practice (n=45,926)		Overall (n=96,733)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Ankle Strain/Sprain	20,090	39.5%	17,797	38.8%	37,887	39.2%
Head/Face Concussion	3,431	6.8%	3,838	8.4%	7,269	7.5%
Hip/Thigh/Upper Leg Strain/Sprain	2,469	4.9%	4,358	9.5%	6,827	7.1%
Knee Strain/Sprain	2,983	5.9%	1,651	3.6%	4,634	4.8%
Head/Face Other	1,902	3.7%	1,761	3.8%	3,664	3.8%
Knee Other	1,440	2.8%	1,798	3.9%	3,238	3.3%
Hand/Wrist Strain/Sprain	2,905	5.7%	332	0.7%	3,237	3.3%
Hip/Thigh/Upper Leg Contusion	1,028	2.0%	1,637	3.6%	2,665	2.8%
Trunk Strain/Sprain	1,690	3.3%	563	1.2%	2,253	2.3%
Head/Face Fracture	743	1.5%	1,441	3.1%	2,184	2.3%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 7.2 Time Loss of Boys' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 7.5 Boys' Basketball Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	3,314	6.6%	1,988	4.4%	5,302	5.5%
Did Not Require Surgery	47,167	93.4%	43,498	95.6%	90,665	94.5%
Total	***50,481***	***100.0%***	***45,486***	***100.0%***	***95,967***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 7.3 History of Boys' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

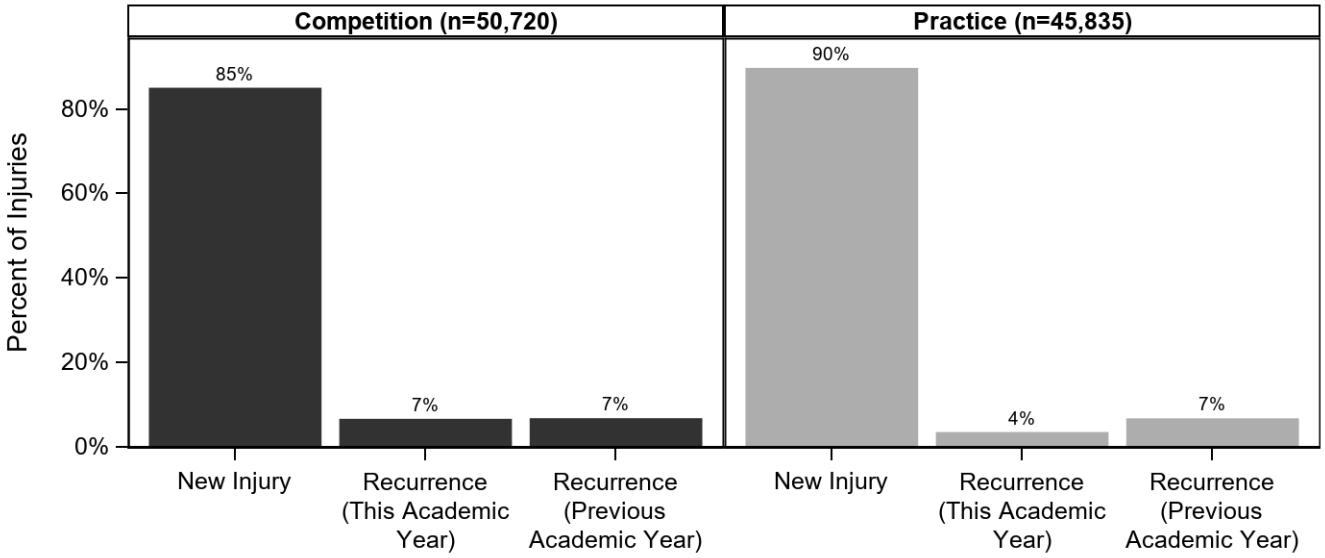


Table 7.6 Time during Season of Boys' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	19,440	20.2%
Regular Season	70,388	73.0%
Post Season	6,339	6.6%
Unknown/Other	239	0.2%
Total	***96,406***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 7.7 Competition-Related Variables for Boys' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	712	1.4%
First Quarter	2,465	5.0%
Second Quarter	10,987	22.3%
Third Quarter	12,556	25.5%
Fourth Quarter	12,923	26.2%
Unknown	9,639	19.6%
Total	***49,281***	***100.0%***

Court Location		
Inside Lane (Offense)	15,415	32.4%
Inside Lane (Defense)	7,060	14.8%
Between 3 Point Arc and Lane (Offense)	3,265	6.9%
Between 3 Point Arc and Lane (Defense)	1,753	3.7%
Outside 3 Point Arc (Offense)	1,593	3.3%
Outside 3 Point Arc (Defense)	1,836	3.9%
Out of Bounds	1,852	3.9%
Backcourt	689	1.4%
Unknown	14,162	29.7%
Total	***47,625***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 7.8 Practice-Related Variables for Boys' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	2,928	6.5%
Second 1/2 Hour	9,177	20.2%
1-2 Hours into Practice	23,648	52.2%
>2 Hours into Practice	1,475	3.3%
Unknown	8,098	17.9%
Total	***45,326***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 7.4 Player Position of Boys' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

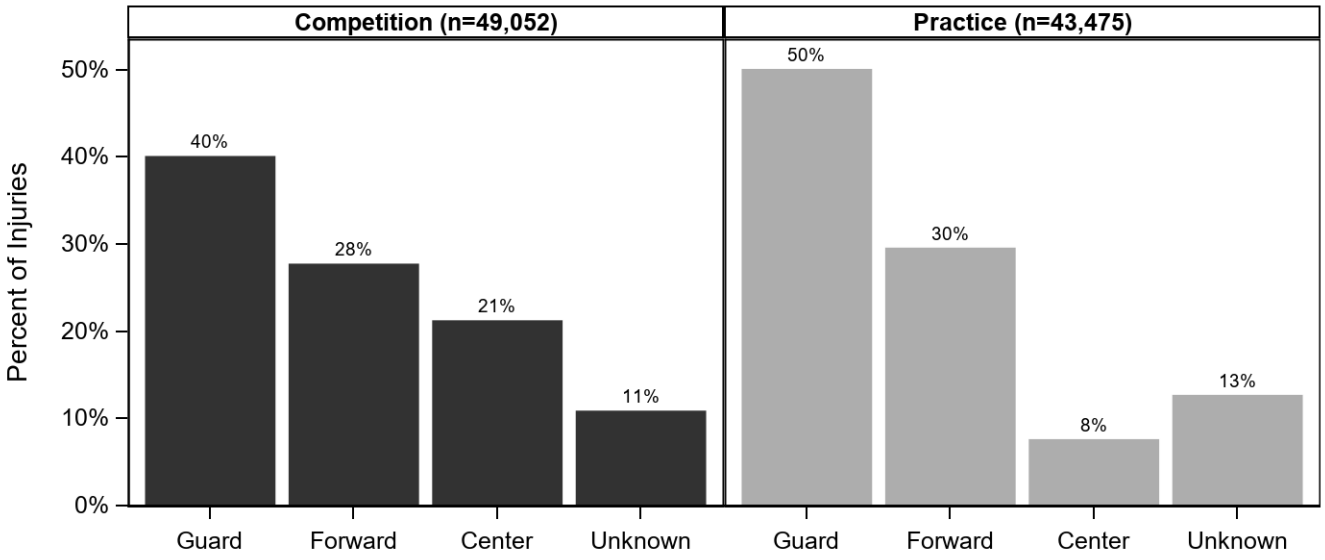


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Table 7.9 Activities Leading to Boys' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
Rebounding	11,754	23.6%	11,866	27.5%	23,621	25.4%
General Play	9,563	19.2%	10,765	24.9%	20,329	21.9%
Shooting	8,647	17.4%	4,577	10.6%	13,224	14.2%
Chasing Loose Ball	4,034	8.1%	3,647	8.4%	7,680	8.3%
Defending	4,269	8.6%	3,133	7.2%	7,402	8.0%
Unknown	4,344	8.7%	1,980	4.6%	6,324	6.8%
Ball Handling/Dribbling	2,980	6.0%	2,066	4.8%	5,046	5.4%
Conditioning	0	0.0%	3,543	8.2%	3,543	3.8%
Receiving Pass	2,387	4.8%	847	2.0%	3,234	3.5%
Other	814	1.6%	611	1.4%	1,426	1.5%
Passing	689	1.4%	90	0.2%	780	0.8%
Screening	278	0.6%	90	0.2%	368	0.4%
Total	***49,760***	***100.0%***	***43,216***	***100.0%***	***92,976***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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Table 7.10 Activity Resulting in Boys' Basketball Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Diagnosis									
	Strain/Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Ball Handling/Dribbling	4,456	7.8%	332	4.2%	0	0.0%	258	3.7%	0	0.0%
Chasing Loose Ball	2,302	4.0%	1,484	18.8%	870	12.8%	1,943	28.1%	1,082	7.8%
Conditioning	2,337	4.1%	258	3.3%	0	0.0%	0	0.0%	948	6.8%
Defending	3,638	6.3%	1,198	15.2%	749	11.1%	1,128	16.3%	689	5.0%
General Play	10,506	18.3%	2,486	31.5%	1,905	28.1%	983	14.2%	4,448	32.0%
Other	293	0.5%	0	0.0%	1,132	16.7%	0	0.0%	0	0.0%
Passing	689	1.2%	0	0.0%	90	1.3%	0	0.0%	0	0.0%
Rebounding	20,512	35.7%	330	4.2%	1,260	18.6%	775	11.2%	743	5.3%
Receiving Pass	967	1.7%	0	0.0%	712	10.5%	517	7.5%	1,038	7.5%
Screening	90	0.2%	0	0.0%	0	0.0%	0	0.0%	278	2.0%
Shooting	9,071	15.8%	1,804	22.9%	54	0.8%	948	13.7%	1,347	9.7%
Unknown	2,630	4.6%	0	0.0%	0	0.0%	368	5.3%	3,326	23.9%
Total	***57,492***	***100.0%***	***7,892***	***100.0%***	***6,773***	***100.0%***	***6,920***	***100.0%***	***13,899***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

VIII. Girls' Basketball Injury Epidemiology

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Table 8.1 Girls' Basketball Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***247***	***119,719***	***2.06***	***77,451***
Competition	163	39,323	4.15	50,510
Practice	84	80,396	1.04	26,941

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 8.2 Demographic Characteristics of Injured Girls' Basketball Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	25,076	33.7%
Sophomore	17,113	23.0%
Junior	18,156	24.4%
Senior	13,974	18.8%
Total	***74,320***	***100.0%***

Age (years)	
Minimum	11
Maximum	18
Mean (SD)	15.7 (1.3)
n	58,539

BMI	
Minimum	14.5
Maximum	37.9
Mean (SD)	21.9 (3.1)
n	37,186

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 8.1 Diagnosis of Girls' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

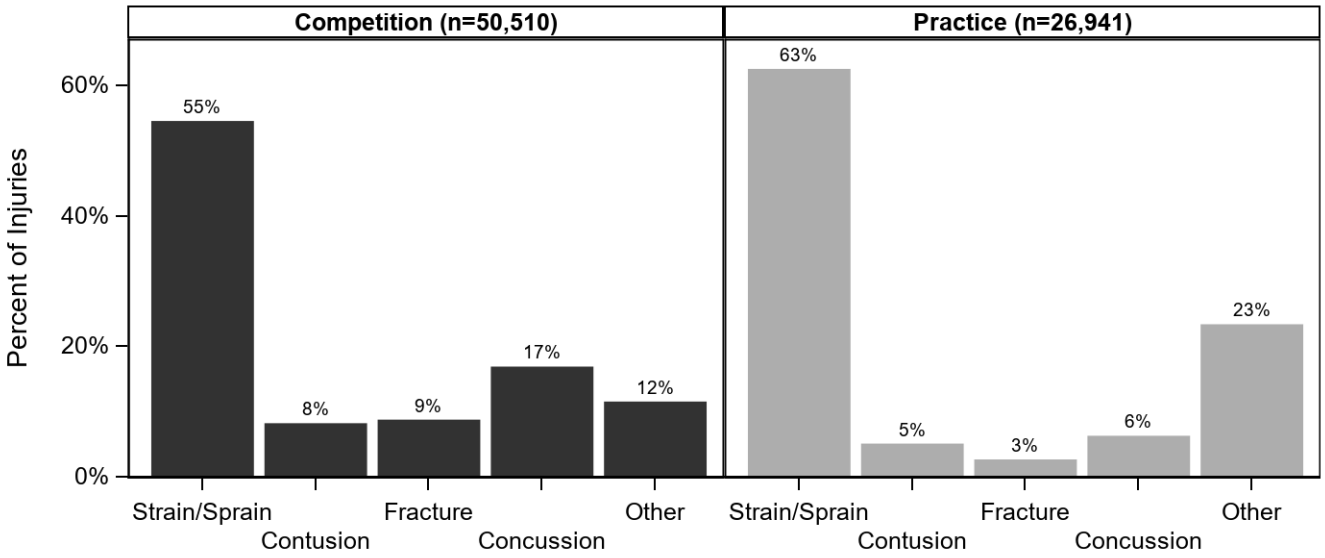


Table 8.3 Body Site of Girls' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Ankle	17,780	35.2%	10,147	37.7%	27,927	36.1%
Head/Face	12,725	25.2%	1,693	6.3%	14,418	18.6%
Knee	7,634	15.1%	4,305	16.0%	11,939	15.4%
Hand/Wrist	4,911	9.7%	3,317	12.3%	8,228	10.6%
Hip/Thigh/Upper Leg	1,574	3.1%	2,792	10.4%	4,367	5.6%
Lower Leg	1,294	2.6%	1,731	6.4%	3,025	3.9%
Trunk	1,283	2.5%	1,141	4.2%	2,424	3.1%
Foot	1,050	2.1%	1,160	4.3%	2,210	2.9%
Arm/Elbow	1,036	2.1%	251	0.9%	1,287	1.7%
Shoulder	673	1.3%	291	1.1%	964	1.2%
Systemic	548	1.1%	113	0.4%	661	0.9%
Total	***50,510***	***100.0%***	***26,941***	***100.0%***	***77,450***	***100.0%***

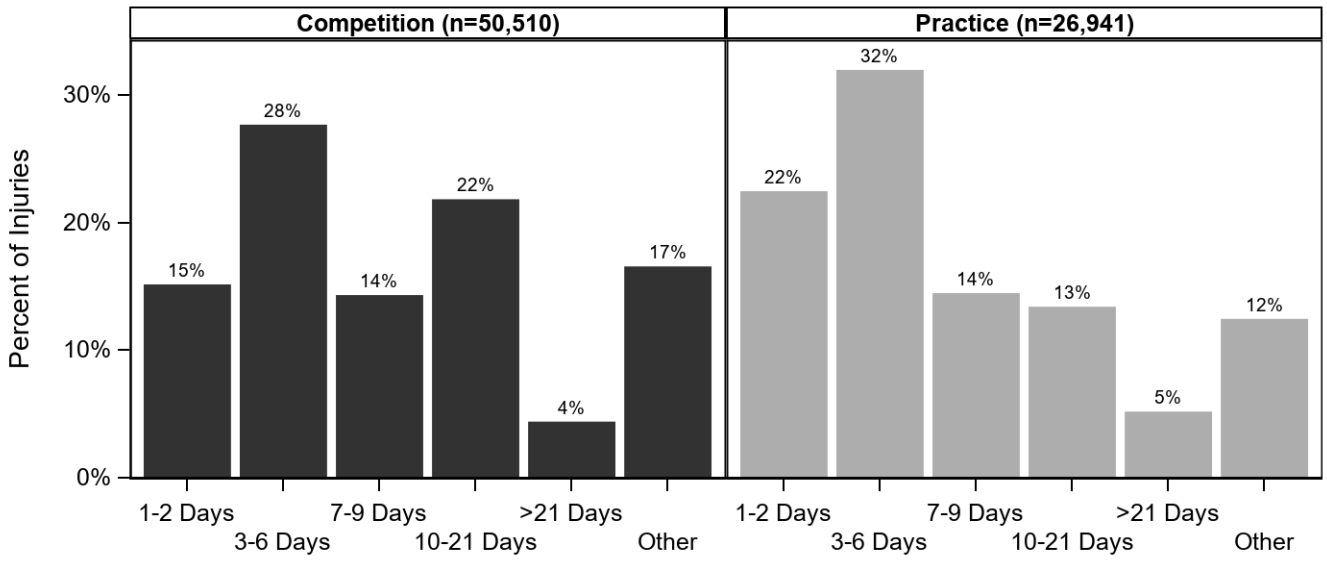
* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 8.4 Ten Most Common Girls' Basketball Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=50,508)		Practice (n=26,940)		Overall (n=77,450)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Ankle Strain/Sprain	17,093	33.8%	10,147	37.7%	27,240	35.2%
Head/Face Concussion	8,536	16.9%	1,693	6.3%	10,230	13.2%
Knee Strain/Sprain	4,593	9.1%	1,079	4.0%	5,672	7.3%
Knee Other	2,540	5.0%	2,877	10.7%	5,417	7.0%
Hip/Thigh/Upper Leg Strain/Sprain	1,042	2.1%	2,485	9.2%	3,527	4.6%
Hand/Wrist Fracture	2,651	5.2%	715	2.7%	3,366	4.3%
Lower Leg Strain/Sprain	1,294	2.6%	1,367	5.1%	2,661	3.4%
Hand/Wrist Strain/Sprain	1,743	3.5%	849	3.2%	2,592	3.3%
Hand/Wrist Other	518	1.0%	1,753	6.5%	2,271	2.9%
Head/Face Fracture	1,618	3.2%	0	0.0%	1,618	2.1%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 8.2 Time Loss of Girls' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 8.5 Girls' Basketball Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	5,491	10.9%	962	3.7%	6,453	8.5%
Did Not Require Surgery	44,680	89.1%	25,210	96.3%	69,889	91.5%
Total	***50,170***	***100.0%***	***26,171***	***100.0%***	***76,342***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 8.3 History of Girls' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

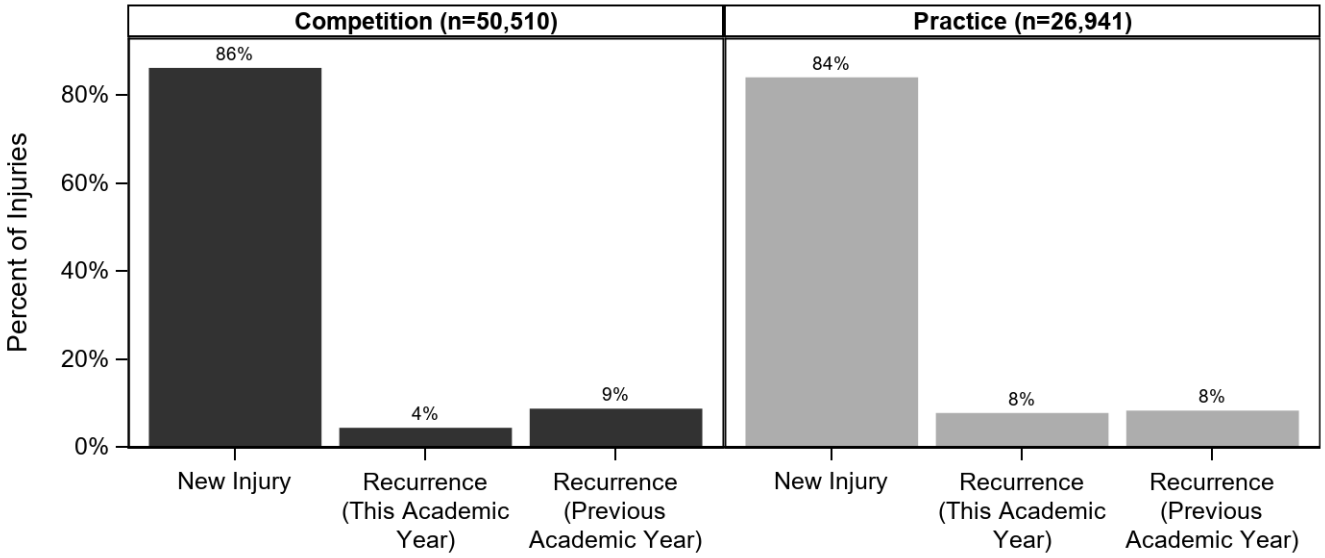


Table 8.6 Time during Season of Girls' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	15,776	20.4%
Regular Season	58,997	76.3%
Post Season	2,578	3.3%
Total	***77,352***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 8.7 Competition-Related Variables for Girls' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	98	0.2%
First Quarter	4,090	8.8%
Second Quarter	9,745	20.9%
Third Quarter	9,102	19.5%
Fourth Quarter	13,960	29.9%
Unknown	9,705	20.8%
Total	***46,701***	***100.0%***

Court Location		
Inside Lane (Offense)	8,772	18.8%
Inside Lane (Defense)	9,956	21.3%
Between 3 Point Arc and Lane (Offense)	2,066	4.4%
Between 3 Point Arc and Lane (Defense)	4,115	8.8%
Outside 3 Point Arc (Offense)	3,970	8.5%
Outside 3 Point Arc (Defense)	2,580	5.5%
Out of Bounds	56	0.1%
Off the Court	56	0.1%
Backcourt	1,738	3.7%
Unknown	13,334	28.6%
Total	***46,644***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 8.8 Practice-Related Variables for Girls' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	3,007	11.4%
Second 1/2 Hour	7,096	27.0%
1-2 Hours into Practice	8,786	33.4%
>2 Hours into Practice	536	2.0%
Unknown	6,843	26.1%
Total	***26,268***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 8.4 Player Position of Girls' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

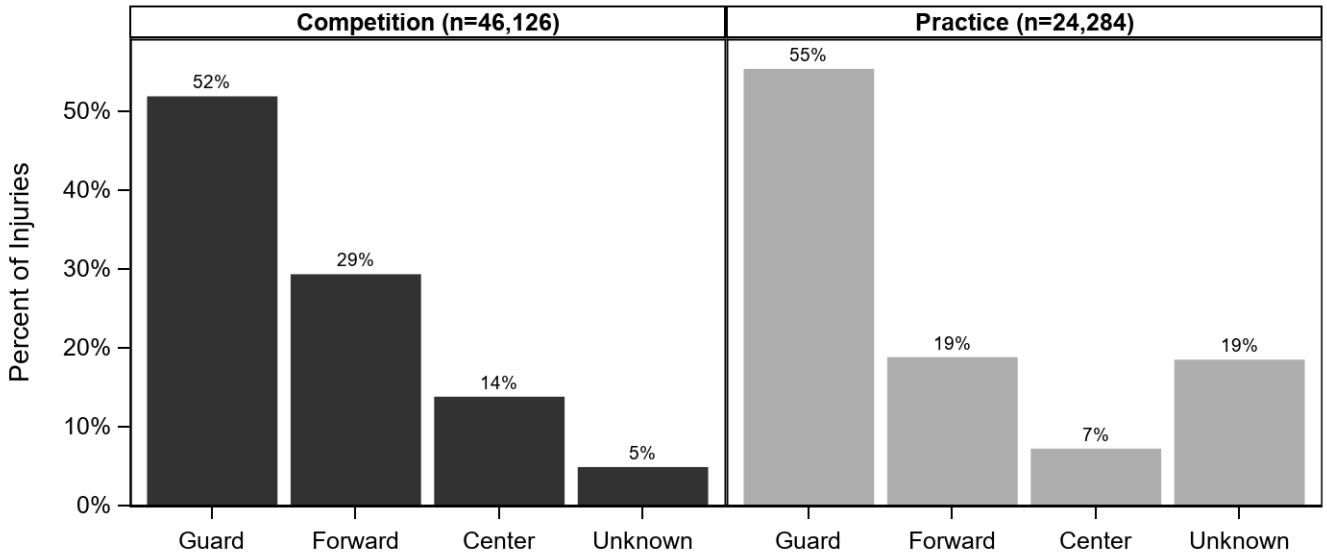


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Table 8.9 Activities Leading to Girls' Basketball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
General Play	8,515	18.2%	6,832	28.1%	15,347	21.6%
Rebounding	8,997	19.3%	3,306	13.6%	12,303	17.3%
Defending	8,298	17.8%	2,107	8.7%	10,405	14.7%
Chasing Loose Ball	5,414	11.6%	2,362	9.7%	7,776	11.0%
Unknown	4,051	8.7%	3,114	12.8%	7,166	10.1%
Shooting	3,606	7.7%	3,274	13.5%	6,880	9.7%
Ball Handling/Dribbling	4,197	9.0%	922	3.8%	5,119	7.2%
Receiving Pass	2,003	4.3%	617	2.5%	2,619	3.7%
Passing	1,036	2.2%	251	1.0%	1,287	1.8%
Conditioning	0	0.0%	1,248	5.1%	1,248	1.8%
Other	291	0.6%	251	1.0%	542	0.8%
Screening	291	0.6%	0	0.0%	291	0.4%
Total	***46,701***	***100.0%***	***24,284***	***100.0%***	***70,984***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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Table 8.10 Activity Resulting in Girls' Basketball Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Diagnosis									
	Strain/Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Ball Handling/Dribbling	3,569	9.0%	1,002	19.7%	0	0.0%	307	3.1%	241	2.1%
Chasing Loose Ball	4,001	10.1%	2,121	41.8%	542	10.8%	631	6.4%	482	4.2%
Conditioning	1,135	2.9%	0	0.0%	0	0.0%	0	0.0%	113	1.0%
Defending	3,982	10.0%	307	6.1%	2,458	48.8%	2,405	24.4%	1,253	11.0%
General Play	8,880	22.4%	0	0.0%	0	0.0%	2,891	29.3%	3,576	31.4%
Other	291	0.7%	0	0.0%	0	0.0%	0	0.0%	251	2.2%
Passing	518	1.3%	0	0.0%	0	0.0%	251	2.5%	518	4.6%
Rebounding	8,379	21.1%	1,155	22.8%	617	12.2%	1,579	16.0%	575	5.0%
Receiving Pass	1,195	3.0%	0	0.0%	1,424	28.2%	0	0.0%	0	0.0%
Screening	291	0.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Shooting	3,713	9.4%	291	5.7%	0	0.0%	583	5.9%	2,293	20.2%
Unknown	3,673	9.3%	197	3.9%	0	0.0%	1,217	12.3%	2,078	18.3%
Total	***39,628***	***100.0%***	***5,073***	***100.0%***	***5,040***	***100.0%***	***9,864***	***100.0%***	***11,379***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

IX. Boys' Wrestling Injury Epidemiology

Table 9.1 Boys' Wrestling Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***411***	***150,019***	***2.74***	***128,204***
Competition	179	37,989	4.71	55,462
Practice	232	112,030	2.07	72,742

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 9.2 Demographic Characteristics of Injured Boys' Wrestling Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	28,642	23.9%
Sophomore	27,622	23.0%
Junior	39,697	33.1%
Senior	23,986	20.0%
Total	***119,946***	***100.0%***

Age (years)	
Minimum	13
Maximum	19
Mean (SD)	15.9 (1.2)
n	103,054

BMI	
Minimum	17.5
Maximum	41.8
Mean (SD)	23.8 (4.3)
n	70,396

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 9.1 Diagnosis of Boys' Wrestling Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

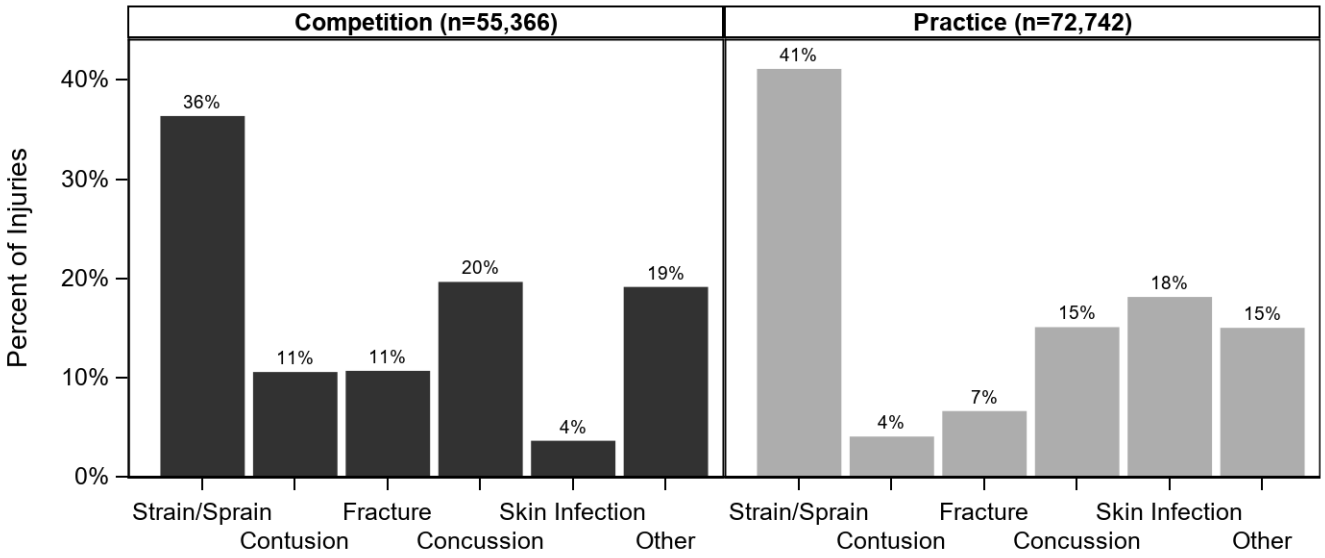


Table 9.3 Body Site of Boys' Wrestling Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Head/Face	12,183	22.0%	18,936	26.0%	31,119	24.3%
Knee	11,529	20.8%	11,985	16.5%	23,514	18.3%
Hand/Wrist	5,656	10.2%	6,719	9.2%	12,375	9.7%
Shoulder	5,517	9.9%	5,968	8.2%	11,485	9.0%
Arm/Elbow	5,701	10.3%	4,936	6.8%	10,636	8.3%
Ankle	2,592	4.7%	6,394	8.8%	8,985	7.0%
Trunk	5,171	9.3%	3,592	4.9%	8,763	6.8%
Hip/Thigh/Upper Leg	3,117	5.6%	4,032	5.5%	7,149	5.6%
Foot	0	0.0%	4,360	6.0%	4,360	3.4%
Neck	1,733	3.1%	2,275	3.1%	4,008	3.1%
Lower Leg	290	0.5%	2,154	3.0%	2,444	1.9%
Systemic	405	0.7%	1,392	1.9%	1,797	1.4%
Other	1,568	2.8%	0	0.0%	1,568	1.2%
Total	***55,462***	***100.0%***	***72,742***	***100.0%***	***128,204***	***100.0%***

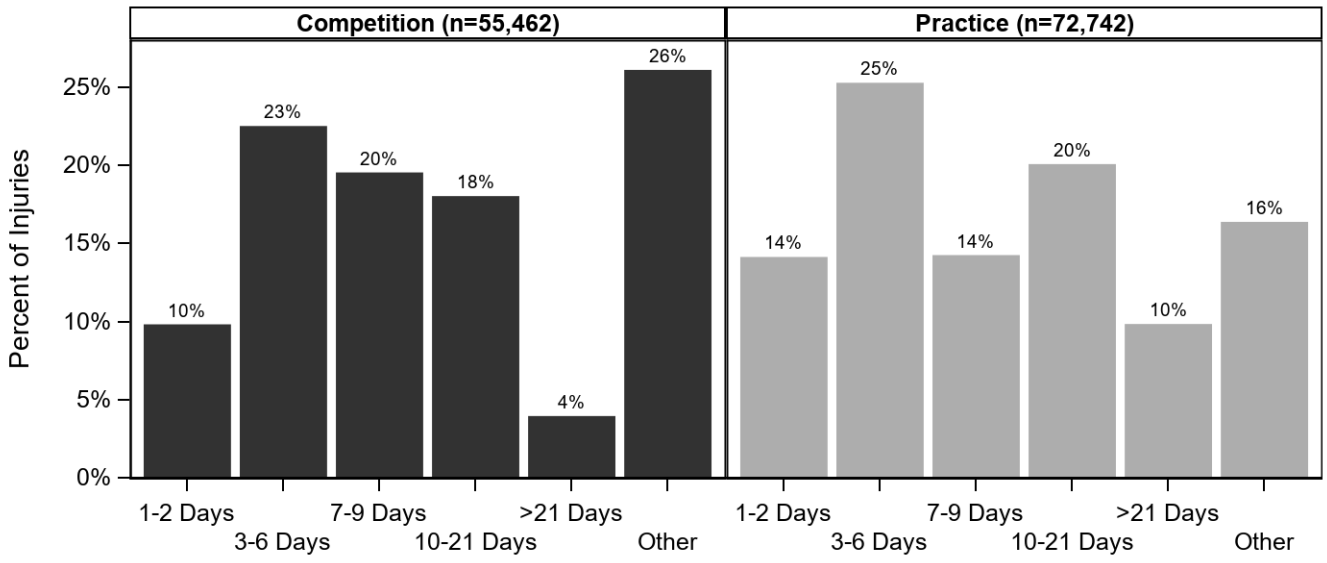
* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 9.4 Ten Most Common Boys' Wrestling Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=55,365)		Practice (n=72,740)		Overall (n=128,106)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Head/Face Concussion	10,779	19.5%	10,969	15.1%	21,748	17.0%
Knee Other	6,555	11.8%	4,444	6.1%	10,998	8.6%
Ankle Strain/Sprain	2,592	4.7%	6,067	8.3%	8,659	6.8%
Head/Face Other	347	0.6%	7,631	10.5%	7,978	6.2%
Knee Strain/Sprain	1,526	2.8%	6,389	8.8%	7,915	6.2%
Hip/Thigh/Upper Leg Strain/Sprain	2,627	4.7%	3,659	5.0%	6,285	4.9%
Arm/Elbow Strain/Sprain	3,769	6.8%	2,271	3.1%	6,040	4.7%
Shoulder Strain/Sprain	3,297	6.0%	2,695	3.7%	5,992	4.7%
Hand/Wrist Fracture	3,264	5.9%	2,672	3.7%	5,936	4.6%
Hand/Wrist Strain/Sprain	2,114	3.8%	2,766	3.8%	4,880	3.8%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 9.2 Time Loss of Boys' Wrestling Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 9.5 Boys' Wrestling Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	2,734	5.1%	3,013	4.1%	5,747	4.5%
Did Not Require Surgery	51,056	94.9%	69,672	95.9%	120,727	95.5%
Total	***53,790***	***100.0%***	***72,685***	***100.0%***	***126,475***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 9.3 History of Boys' Wrestling Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

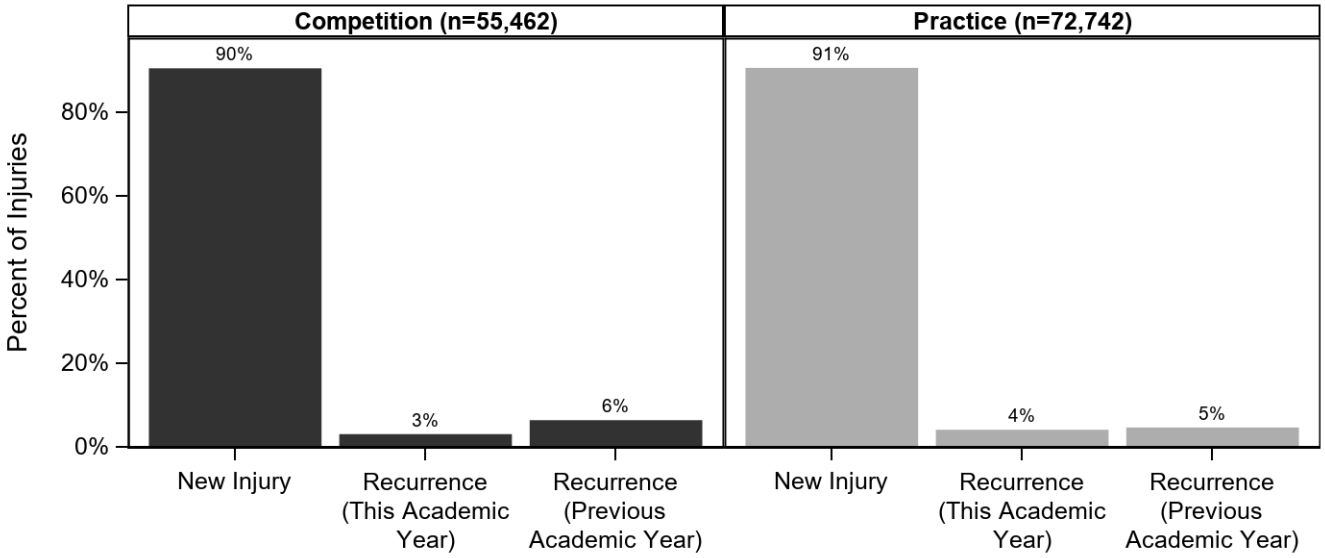


Table 9.6 Time during Season of Boys' Wrestling Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	21,759	17.0%
Regular Season	96,299	75.1%
Post Season	9,541	7.4%
Unknown/Other	604	0.5%
Total	***128,204***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 9.7 Competition-Related Variables for Boys' Wrestling Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	1,544	3.0%
First Period	4,777	9.1%
Second Period	14,644	28.0%
Third Period	5,667	10.9%
Overtime	290	0.6%
Unknown	25,297	48.4%
Total	***52,219***	***100.0%***

Mat Location		
Within 28ft Circle	34,802	65.9%
Out of Bounds	826	1.6%
Unknown	17,176	32.5%
Total	***52,805***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 9.8 Practice-Related Variables for Boys' Wrestling Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	5,687	8.0%
Second 1/2 Hour	3,870	5.4%
1-2 Hours into Practice	31,461	44.2%
>2 Hours into Practice	2,822	4.0%
Unknown	27,405	38.5%
Total	***71,245***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

REPORTING INFORMATION ONLINE

Table 9.9 Activities Leading to Boys' Wrestling Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
Takedown	20,858	40.2%	16,027	23.3%	36,885	30.6%
Unknown	14,176	27.3%	17,268	25.1%	31,444	26.1%
Sparring	5,287	10.2%	13,872	20.2%	19,159	15.9%
N/A **	1,661	3.2%	12,023	17.5%	13,684	11.3%
Fall	3,347	6.5%	1,018	1.5%	4,365	3.6%
Reversal	1,418	2.7%	2,223	3.2%	3,641	3.0%
Other	960	1.9%	2,319	3.4%	3,279	2.7%
Conditioning	0	0.0%	2,507	3.6%	2,507	2.1%
Near Fall	1,521	2.9%	568	0.8%	2,089	1.7%
Riding	2,022	3.9%	0	0.0%	2,022	1.7%
Escape	604	1.2%	952	1.4%	1,556	1.3%
Total	***51,854***	***100.0%***	***68,775***	***100.0%***	***120,630***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.
** Includes overuse, heat illness, conditioning, etc.

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Table 9.10 Activity Resulting in Boys' Wrestling Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

	Diagnosis									
	Strain Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Conditioning	1,959	4.2%	0	0.0%	0	0.0%	490	2.3%	57	0.2%
Escape	1,278	2.7%	0	0.0%	0	0.0%	0	0.0%	278	0.8%
Fall	517	1.1%	0	0.0%	2,351	21.9%	1,066	5.1%	431	1.3%
N/A **	0	0.0%	0	0.0%	0	0.0%	0	0.0%	13,684	39.8%
Near Fall	1,521	3.3%	278	3.5%	0	0.0%	0	0.0%	290	0.8%
Other	555	1.2%	730	9.2%	0	0.0%	1,368	6.5%	625	1.8%
Reversal	1,116	2.4%	0	0.0%	290	2.7%	1,070	5.1%	1,164	3.4%
Riding	617	1.3%	548	6.9%	278	2.6%	290	1.4%	290	0.8%
Sparring	10,195	21.9%	1,526	19.1%	1,895	17.7%	3,102	14.8%	2,440	7.1%
Takedown	16,681	35.8%	3,835	48.1%	3,611	33.7%	6,672	31.9%	6,086	17.7%
Unknown	12,092	26.0%	1,057	13.3%	2,299	21.4%	6,883	32.9%	9,018	26.2%
Total	***46,531***	***100.0%***	***7,974***	***100.0%***	***10,725***	***100.0%***	***20,941***	***100.0%***	***34,363***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.
** Includes overuse, heat illness, conditioning, etc.

X. Boys' Baseball Injury Epidemiology

Table 10.1 Boys' Baseball Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***161***	***143,237***	***1.12***	***63,750***
Competition	94	53,112	1.77	37,175
Practice	67	90,125	0.74	26,575

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 10.2 Demographic Characteristics of Injured Boys' Baseball Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	7,910	13.0%
Sophomore	15,445	25.3%
Junior	16,905	27.7%
Senior	20,678	33.9%
Total	***60,939***	***100.0%***

Age (years)	
Minimum	13
Maximum	18
Mean (SD)	16.3 (1.2)
n	46,533

BMI	
Minimum	17.6
Maximum	34.2
Mean (SD)	23.8 (3.1)
n	41,755

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 10.1 Diagnosis of Boys' Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

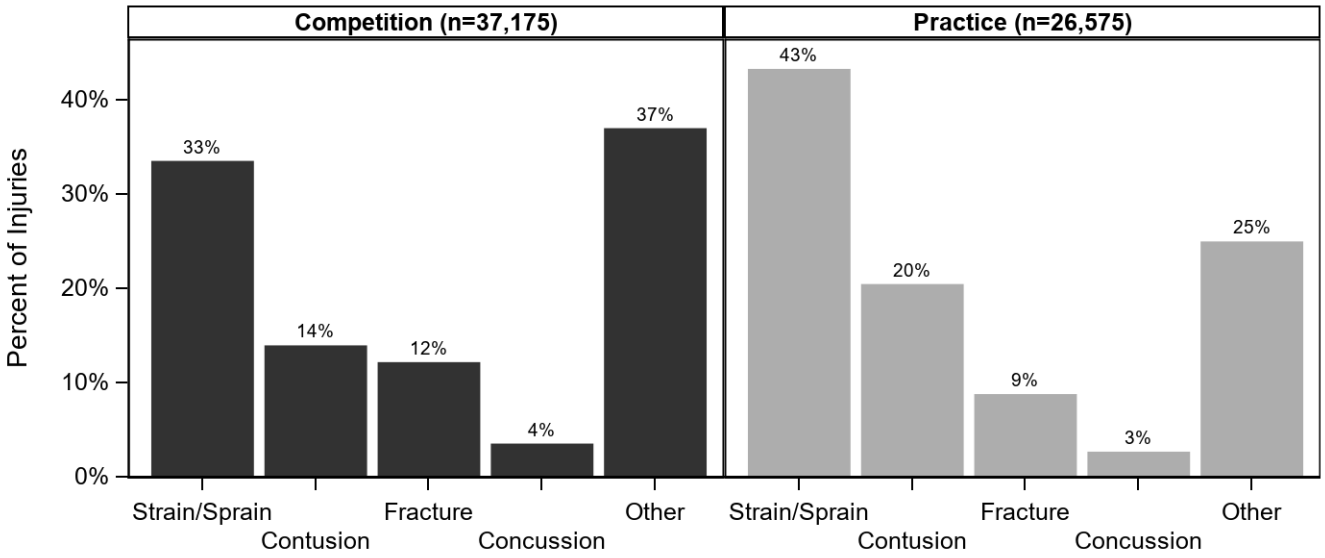


Table 10.3 Body Site of Boys' Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Shoulder	7,209	19.4%	4,210	15.8%	11,418	17.9%
Arm/Elbow	6,138	16.5%	5,057	19.0%	11,196	17.6%
Head/Face	4,286	11.5%	3,344	12.6%	7,631	12.0%
Knee	4,722	12.7%	2,866	10.8%	7,588	11.9%
Ankle	4,608	12.4%	2,144	8.1%	6,752	10.6%
Hip/Thigh/Upper Leg	2,647	7.1%	3,977	15.0%	6,624	10.4%
Trunk	2,052	5.5%	2,590	9.7%	4,642	7.3%
Hand/Wrist	2,993	8.1%	682	2.6%	3,675	5.8%
Lower Leg	1,957	5.3%	0	0.0%	1,957	3.1%
Foot	0	0.0%	1,423	5.4%	1,423	2.2%
Other	282	0.8%	282	1.1%	563	0.9%
Systemic	282	0.8%	0	0.0%	282	0.4%
Total	***37,175***	***100.0%***	***26,575***	***100.0%***	***63,750***	***100.0%***

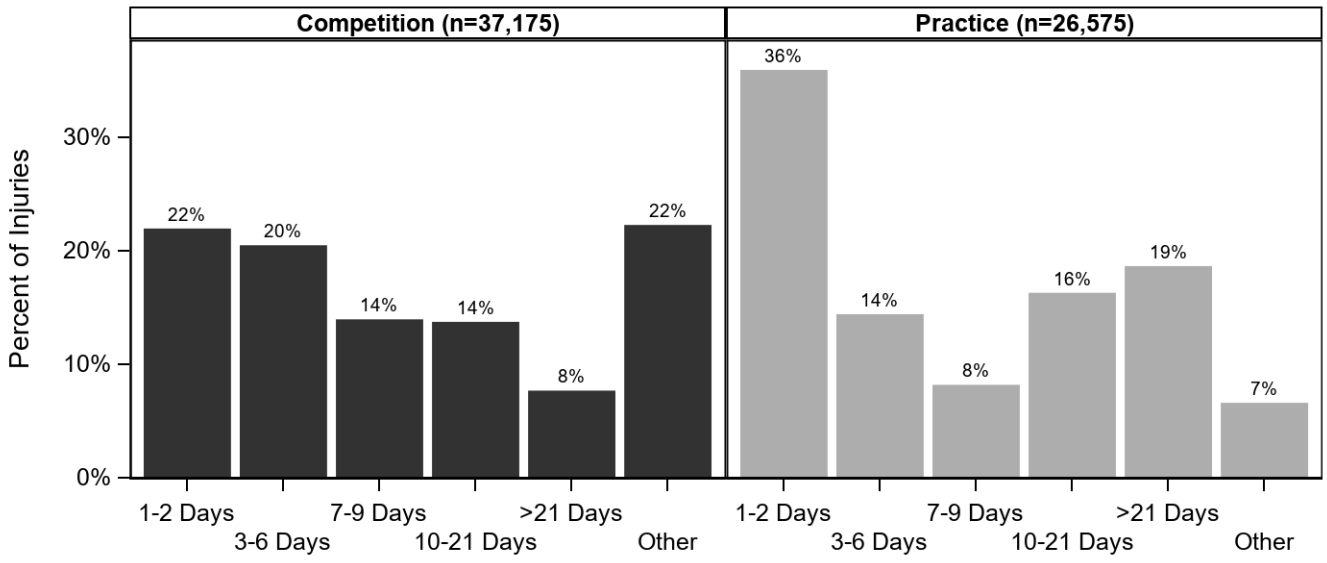
* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 10.4 Ten Most Common Boys' Baseball Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=37,178)		Practice (n=26,576)		Overall (n=63,750)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Hip/Thigh/Upper Leg Strain/Sprain	2,276	6.1%	3,977	15.0%	6,253	9.8%
Ankle Strain/Sprain	3,555	9.6%	2,144	8.1%	5,699	8.9%
Knee Other	4,039	10.9%	1,152	4.3%	5,191	8.1%
Shoulder Other	2,940	7.9%	2,120	8.0%	5,060	7.9%
Arm/Elbow Contusion	2,130	5.7%	2,106	7.9%	4,236	6.6%
Arm/Elbow Other	2,857	7.7%	999	3.8%	3,855	6.0%
Shoulder Strain/Sprain	3,019	8.1%	666	2.5%	3,685	5.8%
Shoulder Contusion	1,152	3.1%	1,423	5.4%	2,575	4.0%
Trunk Other	1,053	2.8%	1,304	4.9%	2,357	3.7%
Trunk Strain/Sprain	999	2.7%	1,286	4.8%	2,285	3.6%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 10.2 Time Loss of Boys' Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 10.5 Boys' Baseball Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	2,089	5.6%	2,166	8.2%	4,255	6.7%
Did Not Require Surgery	34,987	94.4%	24,409	91.8%	59,396	93.3%
Total	***37,076***	***100.0%***	***26,575***	***100.0%***	***63,651***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 10.3 History of Boys' Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

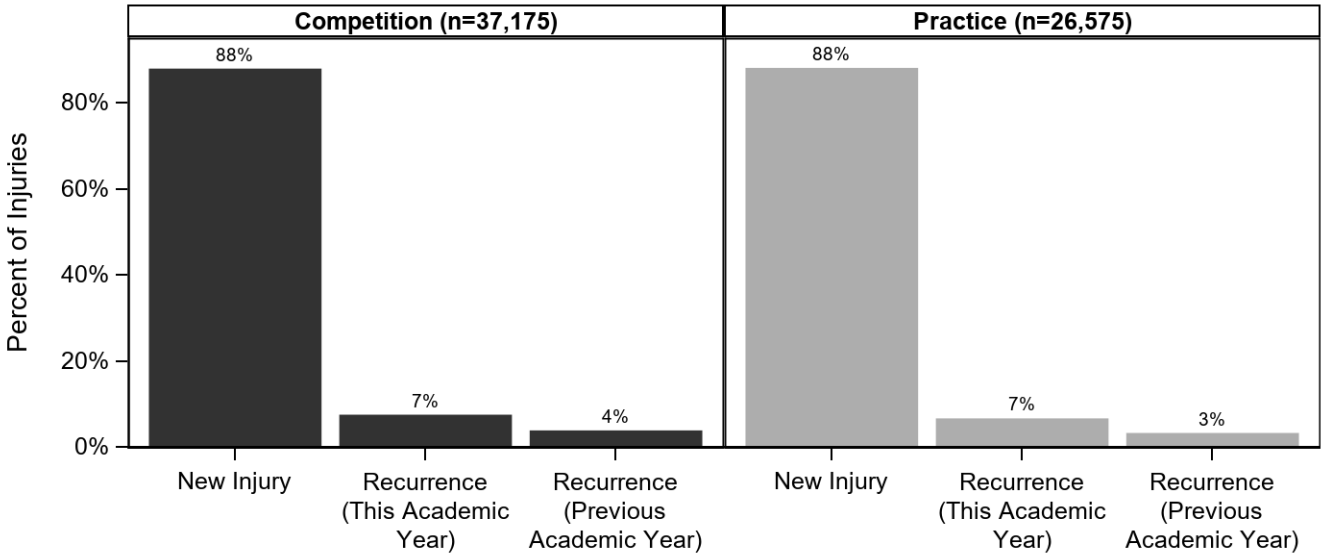


Table 10.6 Time during Season of Boys' Baseball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	14,688	23.4%
Regular Season	43,464	69.3%
Post Season	4,545	7.2%
Total	***62,697***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 10.7 Competition-Related Variables for Boys' Baseball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	1,405	3.9%
First Inning	2,584	7.2%
Second Inning	3,814	10.6%
Third Inning	4,995	13.9%
Fourth Inning	5,920	16.4%
Fifth Inning	3,230	9.0%
Sixth Inning	1,660	4.6%
Seventh Inning	1,423	4.0%
Extra Inning	1,053	2.9%
Unknown	9,944	27.6%
Total	***36,029***	***100.0%***

Field Location		
Pitchers Mound	4,788	13.3%
Home Plate	8,984	24.9%
First Base	6,992	19.4%
Second Base	3,196	8.9%
Third Base	3,871	10.7%
Infield	2,130	5.9%
Outfield	4,990	13.9%
Foul Territory	99	0.3%
Other	391	1.1%
Unknown	588	1.6%
Total	***36,029***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 10.8 Practice-Related Variables for Boys' Baseball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	4,248	17.1%
Second 1/2 Hour	4,546	18.3%
1-2 Hours into Practice	13,572	54.7%
Unknown	2,450	9.9%
Total	***24,816***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 10.4 Player Position of Boys' Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

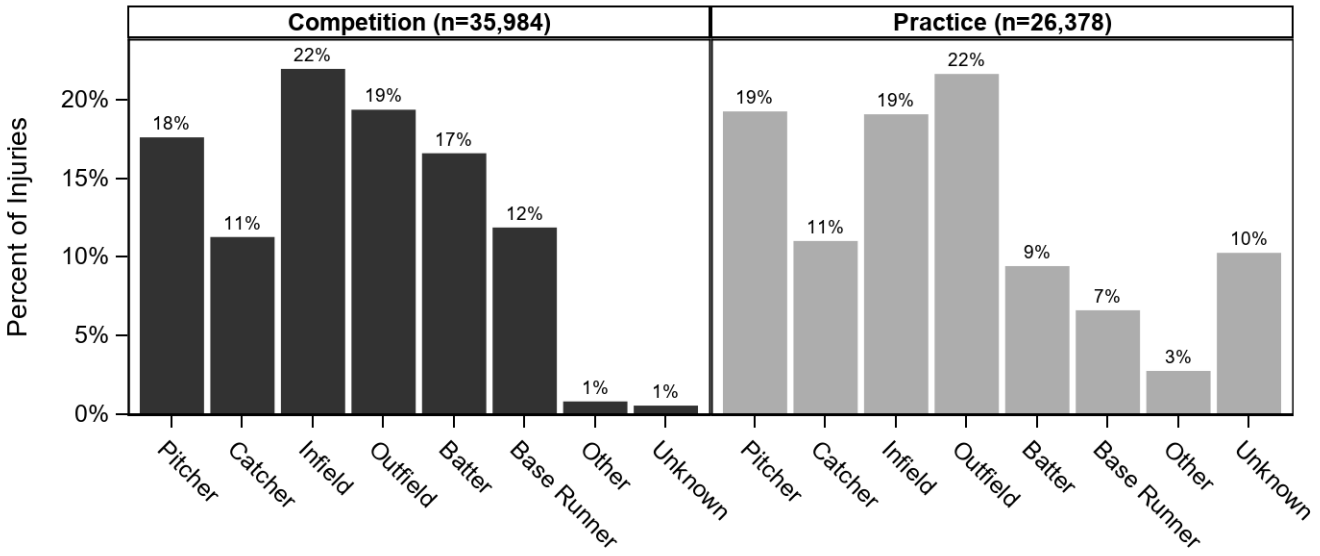


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Table 10.9 Activities Leading to Boys' Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
Running Bases	6,328	17.5%	3,664	13.8%	9,992	16.0%
Fielding a Batted Ball	6,069	16.8%	3,674	13.9%	9,743	15.6%
Batting	5,804	16.1%	3,018	11.4%	8,822	14.1%
Pitching	4,886	13.5%	3,274	12.4%	8,160	13.0%
Catching	4,554	12.6%	2,106	8.0%	6,660	10.6%
Sliding	4,375	12.1%	546	2.1%	4,920	7.9%
Throwing	1,522	4.2%	2,535	9.6%	4,057	6.5%
Other	805	2.2%	2,476	9.4%	3,282	5.2%
Fielding a Thrown Ball	1,152	3.2%	1,107	4.2%	2,258	3.6%
Conditioning	0	0.0%	1,987	7.5%	1,987	3.2%
General Play	0	0.0%	1,796	6.8%	1,796	2.9%
Unknown	588	1.6%	296	1.1%	883	1.4%
Total	***36,083***	***100.0%***	***26,477***	***100.0%***	***62,560***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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Table 10.10 Activity Resulting in Boys' Baseball Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Diagnosis									
	Strain/Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Batting	1,117	4.8%	1,314	12.4%	2,312	34.3%	0	0.0%	4,079	20.4%
Catching	3,120	13.4%	1,053	9.9%	0	0.0%	0	0.0%	2,486	12.5%
Conditioning	1,987	8.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Fielding a Batted Ball	1,804	7.8%	3,729	35.2%	1,775	26.3%	988	49.1%	1,447	7.2%
Fielding a Thrown Ball	99	0.4%	2,106	19.9%	0	0.0%	54	2.7%	0	0.0%
General Play	546	2.3%	1,053	9.9%	0	0.0%	0	0.0%	197	1.0%
Other	1,053	4.5%	99	0.9%	0	0.0%	370	18.4%	1,760	8.8%
Pitching	4,595	19.8%	760	7.2%	99	1.5%	0	0.0%	2,707	13.6%
Running Bases	5,491	23.6%	99	0.9%	567	8.4%	599	29.8%	3,236	16.2%
Sliding	1,449	6.2%	292	2.8%	1,423	21.1%	0	0.0%	1,755	8.8%
Throwing	1,580	6.8%	0	0.0%	469	7.0%	0	0.0%	2,008	10.1%
Unknown	394	1.7%	99	0.9%	99	1.5%	0	0.0%	292	1.5%
Total	***23,234***	***100.0%***	***10,602***	***100.0%***	***6,744***	***100.0%***	***2,012***	***100.0%***	***19,968***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

XI. Girls' Softball Injury Epidemiology

Table 11.1 Girls' Softball Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	# Injuries	# Exposures	Injury Rate (per 1,000 AEs)	Nationally Estimated # Injuries
Total	***130***	***91,321***	***1.42***	***69,579***
Competition	66	32,515	2.03	33,405
Practice	64	58,806	1.09	36,174

* All remaining analyses in this chapter present data weighted to provide national injury estimates.

Table 11.2 Demographic Characteristics of Injured Girls' Softball Athletes, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Year in School	n	%
Freshman	18,101	26.6%
Sophomore	22,090	32.5%
Junior	17,921	26.4%
Senior	9,887	14.5%
Total	***67,999***	***100.0%***

Age (years)	
Minimum	13
Maximum	18
Mean (SD)	15.9 (1.2)
n	51,286

BMI	
Minimum	17.2
Maximum	32.2
Mean (SD)	22.7 (3.3)
n	45,174

* Throughout this chapter, totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 11.1 Diagnosis of Girls' Softball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

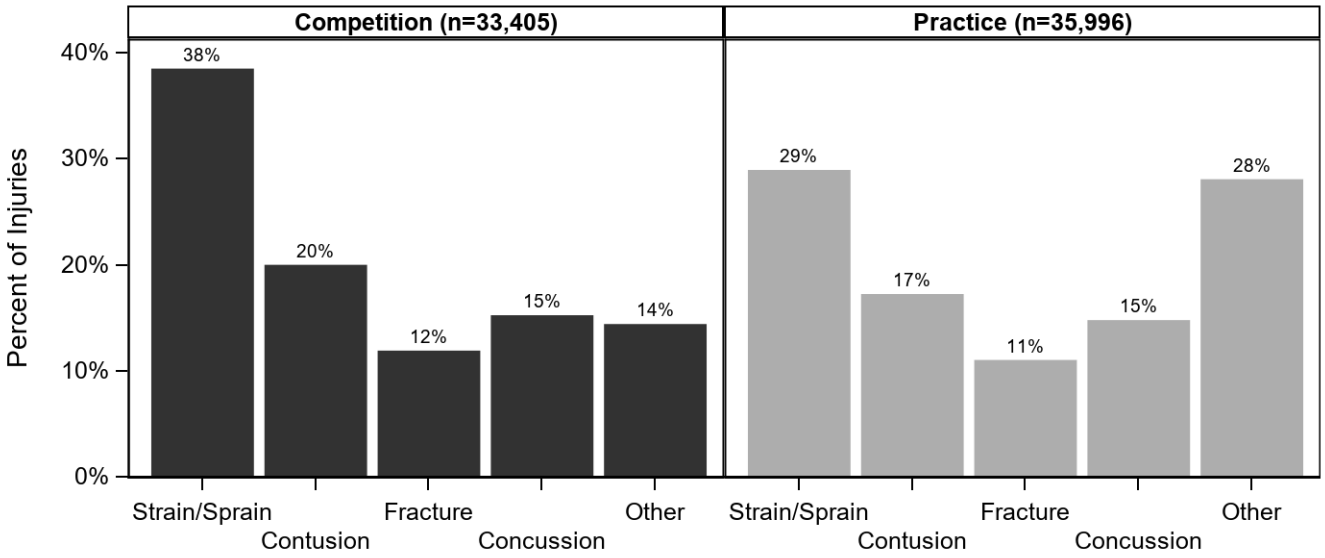


Table 11.3 Body Site of Girls' Softball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Body Site	**n**	**%**	**n**	**%**	**n**	**%**
Head/Face	6,645	19.9%	7,926	21.9%	14,570	20.9%
Knee	5,548	16.6%	5,199	14.4%	10,746	15.4%
Ankle	5,923	17.7%	4,195	11.6%	10,118	14.5%
Hand/Wrist	5,752	17.2%	1,966	5.4%	7,718	11.1%
Shoulder	2,330	7.0%	5,126	14.2%	7,456	10.7%
Foot	2,401	7.2%	2,881	8.0%	5,282	7.6%
Trunk	1,168	3.5%	4,053	11.2%	5,220	7.5%
Hip/Thigh/Upper Leg	2,579	7.7%	959	2.7%	3,538	5.1%
Arm/Elbow	352	1.1%	2,969	8.2%	3,321	4.8%
Lower Leg	473	1.4%	902	2.5%	1,374	2.0%
Neck	178	0.5%	0	0.0%	178	0.3%
Systemic	57	0.2%	0	0.0%	57	0.1%
Total	***33,405***	***100.0%***	***36,174***	***100.0%***	***69,579***	***100.0%***

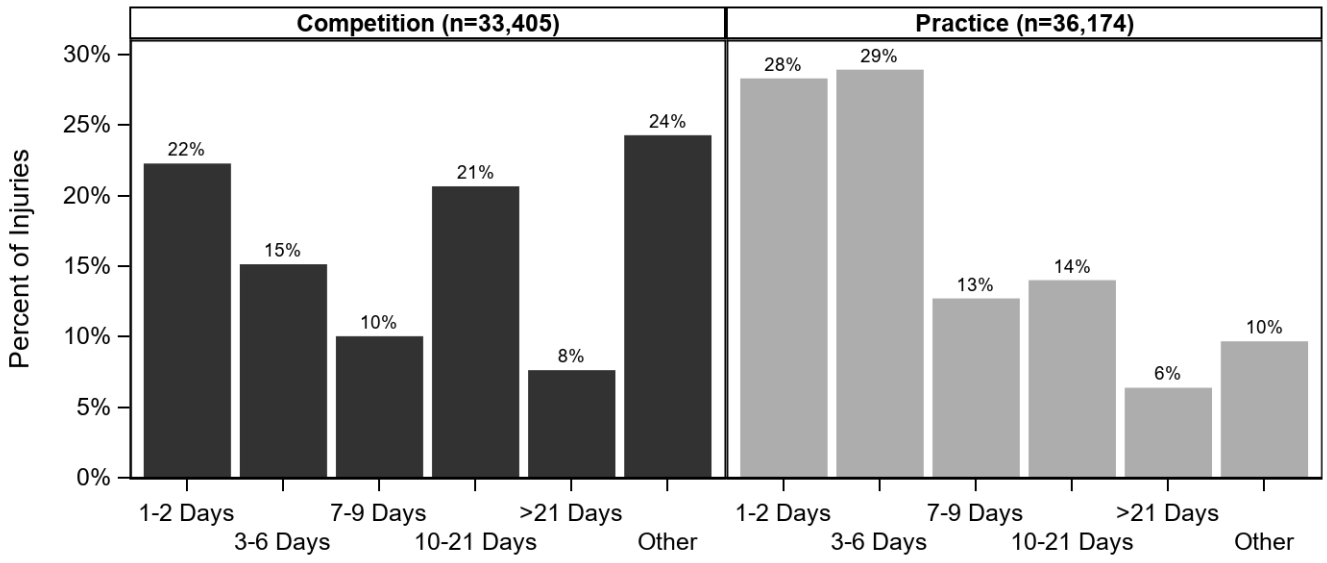
* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 11.4 Ten Most Common Girls' Softball Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition (n=33,407)		Practice (n=35,996)		Overall (n=69,402)	
Diagnosis	**n**	**%**	**n**	**%**	**n**	**%**
Head/Face Concussion	5,088	15.2%	5,317	14.8%	10,404	15.0%
Ankle Strain/Sprain	5,866	17.6%	3,205	8.9%	9,072	13.1%
Shoulder Other	1,563	4.7%	3,146	8.7%	4,709	6.8%
Hand/Wrist Fracture	2,782	8.3%	1,557	4.3%	4,338	6.3%
Trunk Strain/Sprain	1,168	3.5%	3,151	8.8%	4,319	6.2%
Knee Contusion	3,034	9.1%	990	2.8%	4,024	5.8%
Knee Other	844	2.5%	2,969	8.2%	3,813	5.5%
Hip/Thigh/Upper Leg Strain/Sprain	2,579	7.7%	959	2.7%	3,538	5.1%
Knee Strain/Sprain	1,669	5.0%	1,063	3.0%	2,732	3.9%
Head/Face Contusion	990	3.0%	1,047	2.9%	2,036	2.9%

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 11.2 Time Loss of Girls' Softball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *



* Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play.

Table 11.5 Girls' Softball Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Need for Surgery	**n**	**%**	**n**	**%**	**n**	**%**
Required Surgery	2,396	7.2%	1,022	2.9%	3,419	5.0%
Did Not Require Surgery	31,009	92.8%	34,527	97.1%	65,536	95.0%
Total	***33,405***	***100.0%***	***35,550***	***100.0%***	***68,955***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 11.3 History of Girls' Softball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

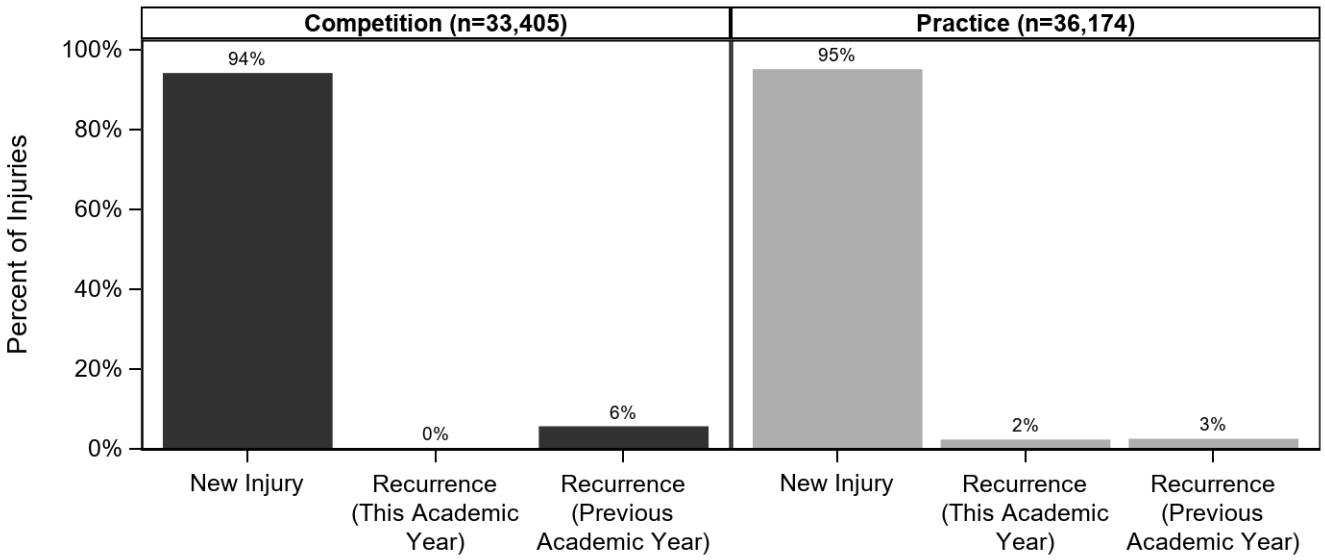


Table 11.6 Time during Season of Girls' Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Season	n	%
Preseason	15,939	22.9%
Regular Season	53,111	76.3%
Post Season	530	0.8%
Total	***69,579***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 11.7 Competition-Related Variables for Girls' Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Competition	n	%
Pre-competition/Warm-Ups	987	3.0%
First Inning	3,536	10.7%
Second Inning	295	0.9%
Third Inning	3,733	11.3%
Fourth Inning	2,183	6.6%
Fifth Inning	4,266	12.9%
Sixth Inning	1,872	5.7%
Unknown	16,241	49.0%
Total	***33,113***	***100.0%***

Field Location		
Unknown	4,450	13.4%
Other	3,813	11.5%
Foul Territory	363	1.1%
Outfield	1,747	5.3%
Infield	235	0.7%
Third Base	2,634	7.9%
Second Base	6,186	18.6%
First Base	3,584	10.8%
Home Plate	6,362	19.2%
Pitchers Mound	3,797	11.4%
Total	***33,170***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Table 11.8 Practice-Related Variables for Girls' Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time in Practice	n	%
First 1/2 Hour	540	1.5%
Second 1/2 Hour	2,729	7.8%
1-2 Hours into Practice	23,132	65.8%
>2 Hours into Practice	2,969	8.4%
Unknown	5,782	16.4%
Total	***35,152***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

Figure 11.4 Player Position of Girls' Softball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

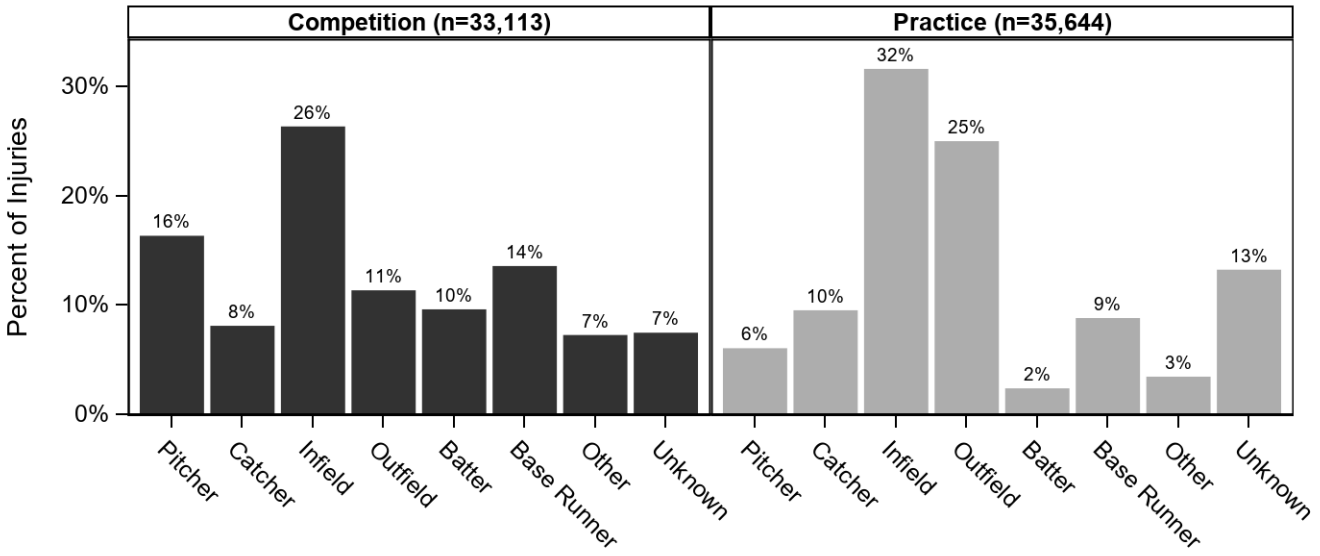


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Table 11.9 Activities Leading to Girls' Softball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Competition		Practice		Overall	
Activity	**n**	**%**	**n**	**%**	**n**	**%**
Fielding a Batted Ball	3,821	11.5%	8,178	22.9%	11,998	17.4%
Sliding	6,106	18.4%	4,513	12.6%	10,619	15.4%
Running Bases	6,480	19.5%	3,176	8.9%	9,656	14.0%
Catching	2,560	7.7%	4,609	12.9%	7,168	10.4%
Throwing	540	1.6%	4,736	13.3%	5,277	7.7%
General Play	1,047	3.2%	3,801	10.6%	4,848	7.0%
Batting	3,347	10.1%	1,412	4.0%	4,759	6.9%
Pitching	3,797	11.4%	844	2.4%	4,641	6.7%
Fielding a Thrown Ball	2,069	6.2%	1,614	4.5%	3,683	5.3%
Unknown	1,569	4.7%	1,139	3.2%	2,709	3.9%
Other	1,891	5.7%	657	1.8%	2,549	3.7%
Conditioning	0	0.0%	1,022	2.9%	1,022	1.5%
Total	***33,227***	***100.0%***	***35,701***	***100.0%***	***68,929***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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Table 11.10 Activity Resulting in Girls' Softball Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

	Diagnosis									
	Strain/Sprain		Contusion		Fracture		Concussion		Other	
Activity	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Batting	178	0.8%	2,457	19.1%	1,557	19.6%	0	0.0%	567	3.8%
Catching	1,047	4.6%	990	7.7%	990	12.5%	3,397	32.7%	567	3.8%
Conditioning	0	0.0%	0	0.0%	178	2.2%	0	0.0%	844	5.7%
Fielding a Batted Ball	2,496	11.0%	4,048	31.4%	1,647	20.7%	2,544	24.4%	1,264	8.5%
Fielding a Thrown Ball	1,412	6.2%	57	0.4%	1,557	19.6%	0	0.0%	657	4.4%
General Play	1,168	5.2%	0	0.0%	363	4.6%	0	0.0%	3,318	22.3%
Other	363	1.6%	1,285	10.0%	0	0.0%	902	8.7%	0	0.0%
Pitching	2,678	11.8%	1,218	9.5%	567	7.1%	0	0.0%	178	1.2%
Running Bases	5,383	23.8%	990	7.7%	57	0.7%	1,815	17.4%	1,412	9.5%
Sliding	5,407	23.9%	1,834	14.2%	844	10.6%	844	8.1%	1,689	11.3%
Throwing	990	4.4%	0	0.0%	178	2.2%	540	5.2%	3,569	23.9%
Unknown	1,502	6.6%	0	0.0%	0	0.0%	363	3.5%	844	5.7%
Total	***22,622***	***100.0%***	***12,878***	***100.0%***	***7,937***	***100.0%***	***10,404***	***100.0%***	***14,910***	***100.0%***

* Totals and n's represent the total weighted number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

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XII. Gender Differences within Sports

12.1 Boys' and Girls' Soccer

Table 12.1 Comparison of Boys' and Girls' Soccer Injury Rates, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

	Boys' Soccer	Girls' Soccer *	RR (95% CI) **
Total	2.01	**2.82**	**1.40 (1.21-1.62)**
Competition	4.20	**6.18**	**1.47 (1.23-1.75)**
Practice	0.96	**1.26**	**1.31 (1.01-1.70)**

* Throughout this chapter, rate ratios (RR) and injury proportion ratios (IPR) compare the gender with a higher injury rate/proportion (bolded) to the gender with a lower injury rate/proportion.
** Throughout this chapter, statistically significant RR and IPR are bolded.

Table 12.2 Comparison of Body Sites of Boys' and Girls' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Body Site	Boys' Soccer	Girls' Soccer	IPR (95% CI)
Head/Face	**15.1%**	13.6%	1.11 (0.71-1.72)
Neck	0.0%	**0.6%**	**24.43 (1.53-391.21)**
Shoulder	**2.0%**	0.4%	**4.67 (1.08-20.27)**
Trunk	2.6%	**4.1%**	1.57 (0.50-4.91)
Arm/Elbow	**1.9%**	1.2%	1.60 (0.31-8.35)
Hand/Wrist	3.3%	**3.8%**	1.13 (0.41-3.11)
Hip/Thigh/Upper Leg	**23.3%**	18.3%	1.27 (0.88-1.84)
Knee	14.5%	**16.5%**	1.14 (0.74-1.74)
Lower Leg	6.8%	**8.1%**	1.19 (0.58-2.44)
Ankle	22.5%	**28.8%**	1.28 (0.92-1.78)
Foot	**7.2%**	3.5%	2.07 (0.93-4.60)
Other	0.1%	**0.2%**	1.79 (0.16-20.15)
Systemic	0.7%	**0.9%**	1.31 (0.13-12.89)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.3 Comparison of Diagnoses of Boys' and Girls' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Diagnosis	Boys' Soccer	Girls' Soccer	IPR (95% CI)
Strain/Sprain	57.0%	**59.7%**	1.05 (0.90-1.23)
Contusion	**10.8%**	10.1%	1.06 (0.62-1.84)
Fracture	**6.5%**	2.0%	**3.22 (1.22-8.51)**
Concussion	11.4%	**12.6%**	1.10 (0.68-1.78)
Other	14.3%	**15.5%**	1.08 (0.69-1.69)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.4 Most Common Boys' and Girls' Soccer Injury Diagnoses, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Diagnosis	Boys' Soccer	Girls' Soccer	IPR (95% CI)
Ankle Strain/Sprain	20.6%	**27.8%**	1.35 (0.96-1.90)
Head/Face Concussion	11.4%	**12.6%**	1.10 (0.68-1.78)
Hip/Thigh/Upper Leg Strain/Sprain	**19.9%**	15.9%	1.25 (0.83-1.88)
Knee Other	**7.0%**	6.0%	1.16 (0.59-2.26)
Knee Strain/Sprain	4.8%	**6.1%**	1.26 (0.58-2.71)

* Only includes diagnoses accounting for >5% of boys' or girls' soccer injuries.

Table 12.5 Comparison of Time Loss of Boys' and Girls' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time Loss	Boys' Soccer	Girls' Soccer	IPR (95% CI)
1-2 Days	17.0%	**23.5%**	1.38 (0.94-2.03)
3-6 Days	**25.8%**	25.2%	1.02 (0.74-1.41)
7-9 Days	**14.7%**	14.1%	1.04 (0.67-1.63)
10-21 Days	**24.4%**	21.1%	1.16 (0.82-1.63)
>21 Days	5.4%	**5.6%**	1.03 (0.48-2.18)
Other	**12.7%**	10.5%	1.21 (0.72-2.02)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.6 Comparison of Mechanisms of Boys' and Girls' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Soccer Mechanism	Boys' Soccer	Girls' Soccer	IPR (95% CI)
Contact with Another Player	**26.7%**	23.5%	1.14 (0.81-1.58)
Contact with Ball	9.7%	**13.3%**	1.37 (0.80-2.36)
Contact with Goal	0.0%	**1.0%**	--
N/A **	**15.7%**	12.4%	1.27 (0.80-2.03)
Other	**16.7%**	11.8%	1.41 (0.84-2.37)
Rotation Around a Planted Foot/Inversion	8.1%	**13.4%**	1.65 (0.98-2.80)
Slide Tackle	**6.4%**	3.9%	1.63 (0.66-4.07)
Stepped On/Fell On/Kicked	7.9%	**9.9%**	1.26 (0.68-2.32)
Uneven Playing Surface	2.1%	**2.9%**	1.39 (0.36-5.30)
Unknown	6.6%	**7.8%**	1.17 (0.62-2.23)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.
** Includes overuse, heat illness, conditioning, etc.

Table 12.7 Comparison of Activities of Boys' and Girls' Soccer Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Soccer Activity	Boys' Soccer	Girls' Soccer	IPR (95% CI)
Attempting a Slide Tackle	**2.7%**	1.0%	2.73 (0.52-14.16)
Ball Handling/Dribbling	7.0%	**9.5%**	1.36 (0.71-2.59)
Blocking Shot	0.2%	**2.8%**	**12.84 (1.58-104.68)**
Chasing Loose Ball	6.2%	**8.8%**	1.43 (0.78-2.62)
Conditioning	**6.1%**	3.8%	1.60 (0.65-3.93)
Defending	9.1%	**14.0%**	1.53 (0.88-2.68)
General Play	30.7%	**33.1%**	1.08 (0.81-1.43)
Goaltending	**5.6%**	3.3%	1.71 (0.69-4.27)
Heading Ball	**5.9%**	2.0%	**2.92 (1.30-6.55)**
Other	**2.7%**	0.1%	**18.97 (2.85-126.14)**
Passing	2.8%	**5.1%**	1.82 (0.71-4.67)
Receiving Pass	**1.4%**	1.2%	1.16 (0.27-5.04)
Receiving a Slide Tackle	**1.7%**	0.7%	2.48 (0.29-21.24)
Shooting	**8.3%**	3.1%	**2.70 (1.21-6.03)**
Unknown	9.6%	**11.4%**	1.19 (0.69-2.05)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

12.2 Boys' and Girls' Basketball

Table 12.8 Comparison of Boys' and Girls' Basketball Injury Rates, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

	Boys' Basketball	Girls' Basketball *	RR (95% CI) **
Total	1.61	**2.06**	**1.28 (1.08-1.51)**
Competition	2.56	**4.15**	**1.62 (1.30-2.02)**
Practice	**1.17**	1.04	1.12 (0.86-1.47)

* Throughout this chapter, rate ratios (RR) and injury proportion ratios (IPR) compare the gender with a higher injury rate/proportion (bolded) to the gender with a lower injury rate/proportion.
** Throughout this chapter, statistically significant RR and IPR are bolded.

Table 12.9 Comparison of Body Sites of Boys' and Girls' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Body Site	Boys' Basketball	Girls' Basketball	IPR (95% CI)
Head/Face	13.9%	**18.6%**	1.34 (0.85-2.09)
Shoulder	**2.1%**	1.2%	1.72 (0.36-8.32)
Trunk	**4.0%**	3.1%	1.27 (0.41-3.91)
Arm/Elbow	0.8%	**1.7%**	2.06 (0.25-16.85)
Hand/Wrist	8.2%	**10.6%**	1.30 (0.65-2.58)
Hip/Thigh/Upper Leg	**10.6%**	5.6%	1.88 (0.87-4.05)
Knee	10.3%	**15.4%**	1.50 (0.88-2.55)
Lower Leg	3.5%	**3.9%**	1.12 (0.36-3.53)
Ankle	**40.0%**	36.1%	1.11 (0.85-1.44)
Foot	**3.2%**	2.9%	1.13 (0.37-3.45)
Other	**1.7%**	0.0%	--
Systemic	**1.7%**	0.9%	2.05 (0.42-9.96)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.10 Comparison of Diagnoses of Boys' and Girls' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Diagnosis	Boys' Basketball	Girls' Basketball	IPR (95% CI)
Strain/Sprain	**61.3%**	57.4%	1.07 (0.90-1.27)
Contusion	**8.4%**	7.1%	1.18 (0.59-2.37)
Fracture	**7.3%**	6.6%	1.10 (0.50-2.39)
Concussion	7.5%	**13.2%**	1.76 (0.99-3.13)
Other	15.5%	**15.7%**	1.01 (0.62-1.65)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.11 Most Common Boys' and Girls' Basketball Injury Diagnoses, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Diagnosis	Boys' Basketball	Girls' Basketball	IPR (95% CI)
Ankle Strain/Sprain	**39.2%**	35.2%	1.11 (0.85-1.46)
Head/Face Concussion	7.5%	**13.2%**	1.76 (0.99-3.13)
Hip/Thigh/Upper Leg Strain/Sprain	**7.1%**	4.6%	1.55 (0.61-3.94)
Knee Other	3.3%	**7.0%**	2.09 (0.80-5.43)
Knee Strain/Sprain	4.8%	**7.3%**	1.53 (0.70-3.32)

* Only includes diagnoses accounting for >5% of boys' or girls' basketball injuries.

Table 12.12 Comparison of Time Loss of Boys' and Girls' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time Loss	Boys' Basketball	Girls' Basketball	IPR (95% CI)
1-2 Days	**20.2%**	17.7%	1.14 (0.74-1.76)
3-6 Days	28.8%	**29.2%**	1.02 (0.73-1.41)
7-9 Days	11.8%	**14.4%**	1.21 (0.72-2.04)
10-21 Days	**21.3%**	18.9%	1.13 (0.74-1.72)
>21 Days	4.2%	**4.7%**	1.10 (0.44-2.74)
Other	13.7%	**15.1%**	1.11 (0.68-1.81)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.13 Comparison of Mechanisms of Boys' and Girls' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Basketball Mechanism	Boys' Basketball	Girls' Basketball	IPR (95% CI)
Collision with Another Player	26.3%	**32.0%**	1.22 (0.87-1.70)
Contact with Ball	1.7%	**5.7%**	**3.42 (1.19-9.83)**
Jumping/Landing	**26.8%**	16.9%	**1.59 (1.03-2.44)**
N/A **	**6.4%**	5.1%	1.26 (0.54-2.94)
Other	7.8%	**10.8%**	1.38 (0.74-2.58)
Rotation Around a Planted Foot/Inversion	**12.8%**	12.2%	1.05 (0.61-1.80)
Stepped On/Fell On/Kicked	**11.2%**	7.7%	1.44 (0.74-2.84)
Unknown	7.0%	**9.6%**	1.38 (0.65-2.92)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.
** Includes overuse, heat illness, conditioning, etc.

Table 12.14 Comparison of Activities of Boys' and Girls' Basketball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Basketball Activity	Boys' Basketball	Girls' Basketball	IPR (95% CI)
Ball Handling/Dribbling	5.4%	**7.2%**	1.33 (0.59-3.01)
Chasing Loose Ball	8.3%	**11.0%**	1.33 (0.73-2.41)
Conditioning	**3.8%**	1.8%	2.17 (0.56-8.35)
Defending	8.0%	**14.7%**	**1.84 (1.00-3.38)**
General Play	**21.9%**	21.6%	1.01 (0.66-1.54)
Other	**1.5%**	0.8%	2.01 (0.35-11.46)
Passing	0.8%	**1.8%**	2.16 (0.26-17.67)
Rebounding	**25.4%**	17.3%	1.47 (0.96-2.23)
Receiving Pass	3.5%	**3.7%**	1.06 (0.33-3.46)
Screening	0.4%	**0.4%**	1.04 (0.08-12.95)
Shooting	**14.2%**	9.7%	1.47 (0.79-2.72)
Unknown	6.8%	**10.1%**	1.48 (0.74-2.98)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

12.3 Boys' Baseball and Girls' Softball

Table 12.15 Comparison of Baseball and Softball Injury Rates, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year

	Boys' Baseball	Girls' Softball *	RR (95% CI) **
Total	1.12	**1.42**	**1.27 (1.01-1.60)**
Competition	1.77	**2.03**	1.15 (0.84-1.57)
Practice	0.74	**1.09**	**1.46 (1.04-2.06)**

* Throughout this chapter, rate ratios (RR) and injury proportion ratios (IPR) compare the gender with a higher injury rate/proportion (bolded) to the gender with a lower injury rate/proportion.
** Throughout this chapter, statistically significant RR and IPR are bolded.

Table 12.16 Comparison of Body Sites of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Body Site	Boys' Baseball	Girls' Softball	IPR (95% CI)
Head/Face	12.0%	**20.9%**	1.73 (0.87-3.46)
Neck	0.0%	**0.3%**	--
Shoulder	**17.9%**	10.7%	1.67 (0.80-3.49)
Trunk	7.3%	**7.5%**	1.03 (0.35-3.01)
Arm/Elbow	**17.6%**	4.8%	**3.67 (1.23-10.97)**
Hand/Wrist	5.8%	**11.1%**	1.93 (0.74-5.04)
Hip/Thigh/Upper Leg	**10.4%**	5.1%	2.04 (0.72-5.78)
Knee	11.9%	**15.4%**	1.30 (0.61-2.79)
Lower Leg	**3.1%**	2.0%	1.55 (0.25-9.64)
Ankle	10.6%	**14.5%**	1.38 (0.61-3.11)
Foot	2.2%	**7.6%**	3.41 (0.61-19.10)
Other	**0.9%**	0.0%	--
Systemic	**0.4%**	0.1%	5.37 (0.33-87.57)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.17 Comparison of Diagnoses of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Diagnosis	Boys' Baseball	Girls' Softball	IPR (95% CI)
Strain/Sprain	**37.5%**	33.5%	1.12 (0.76-1.66)
Contusion	16.6%	**18.6%**	1.12 (0.57-2.18)
Fracture	10.7%	**11.4%**	1.07 (0.47-2.44)
Concussion	3.2%	**15.0%**	**4.75 (1.58-14.24)**
Other	**31.9%**	21.5%	1.49 (0.90-2.46)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.18 Most Common Baseball and Softball Injury Diagnoses, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Diagnosis	Boys' Baseball	Girls' Softball	IPR (95% CI)
Ankle Strain/Sprain	8.9%	**13.1%**	1.46 (0.61-3.49)
Arm/Elbow Contusion	**6.6%**	1.9%	3.59 (0.59-21.97)
Arm/Elbow Other	**6.0%**	2.9%	2.12 (0.42-10.69)
Hand/Wrist Fracture	2.9%	**6.3%**	2.15 (0.62-7.47)
Head/Face Concussion	3.2%	**15.0%**	**4.75 (1.58-14.24)**
Hip/Thigh/Upper Leg Strain/Sprain	**9.8%**	5.1%	1.92 (0.67-5.52)
Knee Contusion	0.5%	**5.8%**	**12.65 (1.47-109.06)**
Knee Other	**8.1%**	5.5%	1.48 (0.46-4.77)
Shoulder Other	**7.9%**	6.8%	1.17 (0.47-2.93)
Shoulder Strain/Sprain	**5.8%**	2.9%	2.03 (0.41-10.11)
Trunk Strain/Sprain	3.6%	**6.2%**	1.74 (0.50-5.97)

* Only includes diagnoses accounting for >5% of boys' baseball or girls' softball injuries.

Table 12.19 Comparison of Time Loss of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Time Loss	Boys' Baseball	Girls' Softball	IPR (95% CI)
1-2 Days	**27.8%**	25.4%	1.10 (0.67-1.80)
3-6 Days	17.9%	**22.3%**	1.25 (0.71-2.19)
7-9 Days	**11.5%**	11.4%	1.01 (0.45-2.23)
10-21 Days	14.8%	**17.2%**	1.17 (0.62-2.19)
>21 Days	**12.2%**	7.0%	1.75 (0.66-4.63)
Other	15.7%	**16.7%**	1.06 (0.54-2.08)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

Table 12.20 Comparison of Mechanisms of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Baseball Mechanism	Boys' Baseball	Girls' Softball	IPR (95% CI)
Contact with Another Player	**10.9%**	9.4%	1.16 (0.48-2.80)
Contact with Bases	10.2%	**13.2%**	1.29 (0.58-2.85)
Contact with Thrown Ball (Non-Pitch)	5.5%	**6.3%**	1.13 (0.35-3.70)
Hit by Batted Ball	7.4%	**13.9%**	1.87 (0.75-4.62)
Hit by Pitch	**6.8%**	3.8%	1.79 (0.43-7.33)
N/A **	7.6%	**15.9%**	2.08 (0.96-4.51)
Other	**29.4%**	17.5%	1.68 (0.94-3.00)
Rotation Around a Planted Foot/Inversion	4.1%	**10.4%**	2.52 (0.82-7.78)
Throwing (Not Pitching)	**5.4%**	3.0%	1.83 (0.55-6.07)
Throwing (Pitching)	**8.5%**	4.2%	2.03 (0.58-7.08)
Unknown	**4.0%**	2.6%	1.57 (0.30-8.23)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.
** Includes overuse, heat illness, conditioning, etc.

Table 12.21 Comparison of Activities of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2024-25 School Year *

Baseball Activity	Boys' Baseball	Girls' Softball	IPR (95% CI)
Batting	**14.1%**	6.9%	2.04 (0.81-5.15)
Catching	**10.6%**	10.4%	1.02 (0.41-2.55)
Conditioning	**3.2%**	1.5%	2.14 (0.28-16.18)
Fielding a Batted Ball	15.6%	**17.4%**	1.12 (0.59-2.11)
Fielding a Thrown Ball	3.6%	**5.3%**	1.48 (0.32-6.80)
General Play	2.9%	**7.0%**	2.45 (0.54-11.21)
Other	**5.2%**	3.7%	1.42 (0.33-6.06)
Pitching	**13.0%**	6.7%	1.94 (0.78-4.83)
Running Bases	**16.0%**	14.0%	1.14 (0.57-2.28)
Sliding	7.9%	**15.4%**	1.96 (0.86-4.44)
Throwing	6.5%	**7.7%**	1.18 (0.43-3.22)
Unknown	1.4%	**3.9%**	2.78 (0.78-9.96)
Total	***100.0%***	***100.0%***	**--**

* Totals are not always equal to 100% due to slight rounding or missing responses.

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XIII. Trends Over Time

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Table 13.1 Injury Rates by Sport, Type of Exposure, and Year, High School Sports-Related Injury Surveillance Study, US, 2005-06 to 2024-25 School Years *

		2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	P-Value for Trend
Overall	Total	2.46	2.53	2.28	1.96	2.03	1.97	2.17	2.16	2.18	2.13	2.32	2.07	2.45	2.29	2.31	2.01	2.36	2.41	2.25	2.41	0.4940
	Competition	**4.50**	**4.74**	**4.36**	**3.93**	**4.06**	**4.12**	**4.26**	**4.31**	**4.22**	**4.40**	**4.74**	**4.25**	**4.88**	**4.61**	**5.16**	**3.84**	**4.53**	**4.93**	**4.71**	**4.93**	**0.0460**
	Practice	1.67	1.71	1.51	1.24	1.28	1.16	1.40	1.34	1.39	1.28	1.39	1.21	1.47	1.38	1.30	1.36	1.47	1.46	1.29	1.38	0.2579
Boys' Football	Total	4.25	4.33	4.09	3.41	3.64	3.50	3.78	3.87	3.74	3.73	4.08	3.56	4.33	3.85	3.84	3.39	4.12	3.80	3.57	3.96	0.5005
	Competition	11.72	13.12	12.45	10.94	12.30	12.30	12.41	12.53	11.38	11.97	12.68	11.55	14.13	12.09	13.07	12.11	13.27	12.84	12.61	13.56	0.0568
	Practice	**2.49**	**2.61**	**2.43**	**1.88**	**1.99**	**1.74**	**2.16**	**2.08**	**2.15**	**2.06**	**2.18**	**1.89**	**2.14**	**2.00**	**1.77**	**1.88**	**2.13**	**1.92**	**1.68**	**1.86**	**0.0034**
Boys' Soccer	Total	2.39	2.19	1.75	1.59	1.73	1.56	1.64	1.52	1.62	1.60	1.87	1.47	1.94	1.83	1.59	1.80	1.76	1.80	1.89	2.01	0.7026
	Competition	4.14	4.13	3.63	3.35	3.31	3.08	3.47	3.28	3.40	3.43	3.95	3.25	3.92	3.86	3.35	3.30	3.76	3.82	3.98	4.20	0.4129
	Practice	1.56	1.41	0.95	0.85	1.04	0.90	0.90	0.78	0.82	0.78	0.91	0.67	1.04	0.92	0.82	1.25	0.90	0.91	1.00	0.96	0.1712
Girls' Soccer	**Total**	**2.32**	**2.44**	**2.31**	**2.00**	**1.96**	**1.93**	**2.42**	**2.29**	**2.47**	**2.64**	**2.59**	**2.46**	**2.82**	**2.72**	**2.22**	**2.06**	**2.34**	**2.45**	**2.69**	**2.82**	**0.0364**
	Competition	5.14	5.22	5.06	4.44	4.63	4.13	5.68	5.54	5.72	6.11	5.93	5.91	5.83	5.70	5.12	4.38	5.09	5.55	5.83	6.18	0.0814
	Practice	1.08	1.29	1.15	0.96	0.81	0.93	1.09	0.92	1.04	1.09	1.09	0.85	1.48	1.34	1.06	1.16	1.07	1.11	1.33	1.26	0.1186
Girls' Volleyball	Total	1.59	1.34	1.21	0.83	0.97	0.96	1.00	0.89	0.99	1.11	1.19	1.09	1.54	1.34	1.25	1.02	1.25	1.28	1.02	1.34	0.6069
	Competition	1.88	1.34	1.38	0.82	0.99	1.18	1.27	1.08	1.15	1.39	1.52	1.61	2.18	1.58	1.84	1.40	1.67	1.65	1.11	1.96	0.0738
	Practice	1.42	1.34	1.13	0.84	0.97	0.85	0.85	0.78	0.91	0.97	1.02	0.83	1.20	1.23	0.95	0.86	1.03	1.09	0.98	1.00	0.3909
Boys' Basketball	Total	1.82	1.72	1.38	1.33	1.43	1.35	1.40	1.47	1.45	1.08	1.48	1.54	1.54	1.61	1.52	1.87	1.75	1.91	1.59	1.61	0.1297
	Competition	2.87	2.82	2.20	2.29	2.69	2.39	2.60	2.44	2.40	1.98	2.84	2.65	2.74	3.09	2.74	2.95	3.07	3.33	2.60	2.56	0.0736
	Practice	1.40	1.26	1.04	0.94	0.90	0.91	0.91	1.04	1.02	0.68	0.90	1.04	1.01	0.98	0.99	1.45	1.14	1.33	1.11	1.17	0.4601
Girls' Basketball	**Total**	**2.02**	**2.03**	**1.57**	**1.47**	**1.56**	**1.73**	**1.57**	**1.83**	**1.88**	**1.65**	**2.14**	**1.87**	**2.15**	**1.95**	**2.06**	**1.87**	**2.43**	**2.14**	**2.36**	**2.06**	**0.0025**
	Competition	**3.56**	**3.52**	**3.19**	**2.95**	**2.84**	**3.59**	**3.03**	**3.13**	**3.66**	**3.27**	**4.17**	**3.63**	**4.12**	**3.63**	**4.01**	**3.14**	**3.96**	**4.79**	**5.14**	**4.15**	**0.0009**
	Practice	1.40	1.39	0.88	0.86	0.99	0.92	0.98	1.24	1.08	0.94	1.24	1.03	1.26	1.21	1.22	1.37	1.73	1.01	1.04	1.04	0.4290
Boys' Wrestling	Total	2.47	2.45	2.30	2.14	1.92	2.01	2.50	2.33	2.48	2.12	2.23	1.92	2.65	2.52	2.38	1.70	2.96	3.10	2.48	2.74	0.1024
	Competition	**3.73**	**3.70**	**3.68**	**3.22**	**3.00**	**3.32**	**3.56**	**3.54**	**3.95**	**3.76**	**3.43**	**3.64**	**4.30**	**4.46**	**4.08**	**2.75**	**5.39**	**5.27**	**4.26**	**4.71**	**0.0050**
	Practice	2.07	2.00	1.80	1.75	1.52	1.55	2.10	1.88	1.95	1.61	1.83	1.32	2.04	1.84	1.81	1.41	2.13	2.38	1.85	2.07	0.4997

Boys' Baseball	Total	1.18	1.25	0.94	0.78	0.82	0.81	0.83	0.88	1.01	0.94	0.84	0.74	0.95	1.03	0.70	1.05	0.96	1.33	1.06	1.12	0.5002
	Competition	1.71	2.03	1.37	1.32	1.27	1.49	1.14	1.30	1.68	1.67	1.35	1.23	1.28	1.66	0.46	1.44	1.36	1.92	1.84	1.77	0.9452
	Practice	0.88	0.82	0.71	0.48	0.57	0.46	0.65	0.66	0.63	0.55	0.56	0.44	0.77	0.68	0.74	0.82	0.72	1.01	0.65	0.74	0.3452
Girls' Softball	**Total**	**1.13**	**1.11**	**1.26**	**1.03**	**1.11**	**0.94**	**1.46**	**1.15**	**0.99**	**1.00**	**1.30**	**1.34**	**1.34**	**1.43**	**0.91**	**1.24**	**1.55**	**1.50**	**1.22**	**1.42**	**0.0315**
	Competition	1.76	1.96	1.82	1.60	1.66	1.45	2.04	1.96	1.09	1.67	2.10	1.55	1.94	2.19	1.74	1.74	1.93	2.14	1.98	2.03	0.1340
	Practice	**0.79**	**0.65**	**0.95**	**0.72**	**0.82**	**0.69**	**1.16**	**0.73**	**0.93**	**0.65**	**0.87**	**1.21**	**1.01**	**1.01**	**0.69**	**0.96**	**1.33**	**1.16**	**0.82**	**1.09**	**0.0255**

* Statistically significant tests for trend are bolded. COVID-19 may have affected these results.

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Table 13.2 Nationally Estimated Number of Injuries by Sport, Type of Exposure, and Year, High School Sports-Related Injury Surveillance Study, US, 2005-06 to 2024-25 School Years *

		2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Overall	Total	1,422,835	1,443,423	1,401,275	1,214,878	1,330,664	1,195,816	1,392,262	1,361,986	1,427,315	1,196,479	1,393,566	1,160,321	1,367,995	1,307,414	983,683	1,237,273	1,385,717	1,534,842	1,499,393	1,439,640
	Competition	746,284	748,874	748,558	668,031	738,454	711,642	740,493	779,055	790,966	708,150	801,156	699,410	798,725	748,085	551,249	619,712	766,617	894,718	871,776	850,668
	Practice	676,551	694,549	652,717	546,847	592,210	484,174	651,769	582,931	636,349	488,329	592,410	460,911	569,270	559,329	432,434	617,561	619,100	640,124	627,617	588,972
Boys' Football	Total	505,908	561,470	605,644	513,455	560,100	483,016	559,064	616,209	624,470	529,483	568,789	444,281	463,626	455,449	392,734	485,416	478,688	552,396	562,530	492,229
	Competition	274,446	285,252	304,470	279,816	310,130	296,199	287,710	344,097	324,354	286,421	316,308	252,462	281,790	259,317	236,338	248,398	276,694	336,471	332,956	301,912
	Practice	231,462	276,218	301,174	233,639	249,970	186,817	271,354	272,112	300,116	243,062	252,481	191,819	181,836	196,132	156,396	237,018	201,994	215,925	229,574	190,317
Boys' Soccer	Total	215,490	168,604	159,009	147,341	152,237	138,974	172,070	149,049	149,278	133,919	174,811	145,215	180,607	184,656	134,036	143,124	174,322	198,877	192,806	206,216
	Competition	116,987	90,461	99,785	85,837	82,737	81,238	97,540	89,429	90,683	89,091	111,720	98,031	113,655	120,217	77,322	71,425	111,007	120,281	118,247	129,916
	Practice	98,503	78,143	59,224	61,504	69,500	57,736	74,530	59,620	58,595	44,828	63,091	47,184	66,952	64,439	56,714	71,699	63,315	78,596	74,559	76,300
Girls' Soccer	Total	182,938	225,560	211,056	185,594	179,509	180,254	222,679	190,382	227,172	217,546	209,027	190,436	242,602	227,951	118,608	133,171	168,680	192,685	205,801	230,933
	Competition	121,437	145,173	141,924	118,804	129,463	124,674	145,469	141,339	167,975	158,078	142,722	146,696	152,993	140,542	73,390	77,138	118,572	132,485	130,307	153,973
	Practice	61,501	80,387	69,132	66,790	50,046	55,580	77,210	49,043	59,197	59,468	66,305	43,740	89,609	87,409	45,218	56,033	50,108	60,200	75,494	76,960
Girls' Volleyball	Total	78,298	79,592	71,791	53,413	67,204	50,711	52,662	44,064	45,144	46,807	58,127	46,601	67,163	59,370	54,665	61,279	68,994	73,903	60,718	74,542
	Competition	32,177	27,076	25,898	18,204	21,550	21,416	24,439	19,150	16,430	19,373	25,300	23,886	33,075	23,045	25,810	27,437	30,805	31,391	23,122	37,504
	Practice	46,121	52,516	45,893	35,209	45,654	29,295	28,223	24,914	28,714	27,434	32,827	22,715	34,088	36,325	28,855	33,842	38,189	42,512	37,596	37,038
Boys' Basketball	Total	96,966	94,482	82,580	77,897	84,102	79,762	75,872	85,819	84,455	55,980	81,240	88,927	93,773	87,521	84,828	129,429	101,263	124,110	102,434	96,736
	Competition	43,670	45,054	36,560	39,332	46,575	41,252	41,978	44,095	42,504	32,534	45,596	46,251	48,814	48,318	47,736	64,833	53,165	64,575	54,994	50,811
	Practice	53,296	49,428	46,020	38,565	37,527	38,510	33,894	41,724	41,951	23,446	35,644	42,676	44,959	39,203	37,092	64,596	48,098	59,535	47,440	45,925
Girls' Basketball	Total	105,355	99,779	71,568	60,673	78,328	83,033	67,280	83,107	89,451	64,491	99,598	70,700	91,059	82,383	76,317	79,278	111,665	86,437	96,585	77,451
	Competition	53,776	52,140	43,949	34,928	44,026	53,931	37,213	45,645	50,864	38,803	56,786	44,660	54,339	48,080	43,148	37,603	51,976	58,076	68,747	50,510
	Practice	51,579	47,639	27,619	25,745	34,302	29,102	30,067	37,462	38,587	25,688	42,812	26,040	36,720	34,303	33,169	41,675	59,689	28,361	27,838	26,941
Boys' Wrestling	Total	107,654	98,836	92,353	87,041	77,857	80,569	107,992	85,485	91,203	60,253	91,642	67,834	103,058	91,176	94,606	81,045	142,959	149,885	128,822	128,204
	Competition	36,238	37,781	40,260	37,074	36,704	36,536	40,235	35,016	39,378	32,728	38,430	34,405	48,770	44,433	41,914	29,360	64,629	73,599	62,263	55,462
	Practice	71,416	61,055	52,093	49,967	41,153	44,033	67,757	50,469	51,825	27,525	53,212	33,429	54,288	46,743	52,692	51,685	78,330	76,286	66,559	72,742

Boys' Baseball	Total	67,064	60,689	46,078	39,869	64,053	46,797	43,590	49,747	62,493	44,208	44,760	36,395	49,716	52,889	13,087	70,377	63,115	70,685	74,776	63,750
	Competition	33,009	33,746	22,803	25,584	36,502	29,789	20,818	24,807	37,682	27,129	25,581	21,458	26,844	30,158	833	36,233	29,855	36,455	43,526	37,175
	Practice	34,055	26,943	23,275	14,285	27,551	17,008	22,772	24,940	24,811	17,079	19,179	14,937	22,872	22,731	12,254	34,144	33,260	34,230	31,250	26,575
Girls' Softball	Total	63,162	54,411	61,196	49,595	67,274	52,700	91,053	58,124	53,649	43,792	65,572	69,932	76,391	66,019	14,802	54,154	76,031	85,864	74,921	69,579
	Competition	34,544	32,191	32,909	28,452	30,767	26,607	45,091	35,477	21,096	23,993	38,713	31,561	38,445	33,975	4,758	27,285	29,914	41,385	37,614	33,405
	Practice	28,618	22,220	28,287	21,143	36,507	26,093	45,962	22,647	32,553	19,799	26,859	38,371	37,946	32,044	10,044	26,869	46,117	44,479	37,307	36,174

Table 13.3 Body Site of Injury by Year, High School Sports-Related Injury Surveillance Study, US, 2005-06 to 2024-25 School Years *

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Body Site																				
Ankle	22.6%	19.8%	18.6%	16.3%	17.7%	17.7%	16.1%	15.5%	16.9%	15.1%	16.6%	17.8%	17.8%	18.3%	19.6%	19.1%	17.6%	18.0%	18.4%	20.2%
Arm/Elbow	4.1%	3.9%	4.7%	4.2%	4.1%	3.1%	4.0%	3.5%	3.1%	3.7%	3.4%	3.7%	4.6%	3.5%	4.0%	4.0%	4.2%	3.6%	3.6%	4.5%
Foot	4.4%	4.3%	4.2%	5.2%	4.2%	4.0%	3.4%	3.2%	2.8%	3.9%	3.6%	2.5%	3.9%	3.9%	3.6%	2.5%	4.7%	3.6%	4.6%	4.2%
Hand/Wrist	9.2%	8.1%	10.2%	9.4%	10.2%	8.9%	8.6%	7.4%	7.8%	7.4%	7.8%	7.7%	9.1%	7.9%	8.4%	7.9%	7.0%	9.3%	8.6%	8.4%
Head/Face	12.4%	12.6%	12.5%	15.1%	17.2%	23.3%	25.1%	25.7%	25.3%	27.4%	27.3%	27.2%	21.4%	21.4%	21.1%	15.6%	17.8%	17.5%	17.4%	17.5%
Hip/Thigh/Upper Leg	10.9%	10.7%	10.3%	10.4%	9.2%	8.3%	9.8%	9.5%	8.7%	9.0%	8.0%	9.0%	10.3%	9.9%	9.9%	11.8%	10.5%	10.1%	10.4%	11.6%
Knee	14.3%	16.4%	14.5%	14.7%	15.6%	14.2%	13.4%	14.8%	14.4%	13.7%	14.9%	13.4%	14.1%	13.8%	13.3%	15.5%	14.9%	15.2%	15.3%	14.8%
Lower Leg	4.7%	5.4%	5.8%	5.9%	4.7%	5.0%	4.5%	3.9%	4.9%	4.0%	4.3%	4.4%	4.7%	4.2%	4.1%	5.2%	4.3%	5.8%	5.4%	4.7%
Neck	2.1%	2.0%	1.8%	1.9%	1.9%	1.8%	1.7%	2.3%	1.2%	1.9%	1.3%	1.4%	0.9%	1.5%	1.5%	0.9%	1.1%	1.6%	1.1%	0.9%
Other	1.0%	2.1%	2.1%	2.7%	2.2%	2.1%	2.0%	2.5%	2.4%	2.5%	2.1%	2.3%	2.0%	2.2%	2.3%	1.3%	1.2%	1.6%	2.0%	1.4%
Shoulder	7.9%	7.9%	9.1%	8.5%	7.0%	7.0%	6.6%	6.5%	8.5%	7.2%	6.8%	6.4%	6.1%	7.7%	7.0%	7.5%	7.1%	7.5%	6.9%	6.7%
Systemic	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.9%	4.3%	1.0%	1.1%	0.8%
Trunk	6.2%	6.9%	6.4%	5.6%	5.9%	4.7%	5.0%	5.2%	4.1%	4.3%	4.0%	4.3%	5.1%	5.7%	5.2%	4.7%	5.1%	5.2%	5.2%	4.4%
Total	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

* Throughout this chapter, n's represent the total number of injury reports containing a valid response for the particular question. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries. Totals are not always equal to 100% due to slight rounding or missing responses. Systemic was added in the 2020/21 academic year. COVID-19 may have affected these results.

REPORTING INFORMATION ONLINE

Table 13.4 Injury Diagnosis by Year, High School Sports-Related Injury Surveillance Study, US, 2005-06 to 2024-25 School Years *

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Diagnosis																				
Strain/Sprain	52.2%	48.2%	48.3%	45.8%	44.9%	43.2%	42.2%	42.3%	41.7%	39.8%	40.4%	40.2%	45.1%	44.6%	45.3%	47.8%	44.2%	46.8%	45.8%	48.0%
Contusion	12.3%	13.7%	12.7%	11.7%	14.2%	9.6%	10.8%	10.6%	9.4%	9.3%	9.2%	9.6%	10.2%	11.1%	8.1%	9.2%	10.3%	11.2%	10.3%	10.3%
Fracture	9.7%	9.0%	10.2%	10.8%	9.6%	10.2%	7.7%	7.8%	7.6%	9.4%	8.6%	8.5%	8.0%	7.9%	7.6%	8.9%	7.7%	9.1%	9.0%	8.4%
Concussion	9.3%	8.4%	9.2%	11.5%	14.0%	20.0%	22.2%	23.1%	21.9%	24.6%	24.6%	24.8%	18.8%	18.8%	18.0%	12.3%	15.2%	14.8%	15.1%	14.2%
Other	16.5%	20.7%	19.6%	20.1%	17.3%	17.0%	17.1%	16.2%	19.4%	16.9%	17.1%	16.9%	17.9%	17.5%	21.0%	21.9%	22.7%	18.1%	19.8%	19.0%
Total	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

* Totals are not always equal to 100% due to slight rounding or missing responses. COVID-19 may have affected these results.

REPORTING INFORMATION ONLINE

Table 13.5 Most Common Injury Diagnoses by Year, High School Sports-Related Injury Surveillance Study, US, 2005-06 to 2024-25 School Years *

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Diagnosis																				
Ankle Strain/Sprain	20.6%	17.8%	17.4%	15.0%	16.1%	16.3%	14.7%	14.5%	15.6%	14.2%	15.7%	16.5%	16.4%	16.2%	17.7%	18.0%	15.9%	17.0%	16.3%	18.9%
Hand/Wrist Fracture	3.5%	3.6%	4.0%	3.9%	4.2%	4.0%	3.7%	3.2%	3.3%	3.5%	3.6%	3.5%	3.4%	3.5%	3.4%	3.7%	3.1%	3.7%	3.4%	3.6%
Hand/Wrist Strain/Sprain	3.6%	2.7%	4.0%	3.0%	2.8%	2.8%	3.0%	2.5%	2.8%	1.9%	2.5%	2.0%	3.5%	2.6%	3.3%	2.7%	2.3%	3.5%	3.1%	2.8%
Head/Face Concussion	9.2%	8.4%	9.2%	11.5%	13.9%	20.0%	22.2%	23.1%	21.9%	24.5%	24.6%	24.8%	18.7%	18.8%	18.0%	12.4%	15.2%	14.8%	15.1%	14.2%
Hip/Thigh/Upper Leg Strain/Sprain	8.0%	7.7%	7.3%	7.8%	6.5%	6.4%	6.9%	6.7%	6.6%	6.9%	5.7%	6.4%	8.1%	7.2%	7.5%	9.2%	8.2%	7.1%	8.0%	9.2%
Knee Other	4.5%	4.8%	4.6%	4.4%	5.1%	4.8%	3.9%	4.1%	4.7%	4.5%	5.2%	4.9%	5.1%	4.9%	4.8%	6.0%	5.2%	5.1%	6.1%	5.8%
Knee Strain/Sprain	7.6%	8.7%	7.7%	7.9%	7.9%	7.7%	7.6%	8.2%	7.8%	7.3%	8.1%	6.9%	6.6%	7.2%	6.5%	7.4%	7.0%	8.0%	7.0%	6.3%
Shoulder Other	3.1%	3.6%	4.1%	4.0%	3.2%	3.7%	3.1%	3.4%	4.6%	4.0%	3.3%	3.4%	2.9%	3.4%	4.0%	3.9%	3.9%	4.2%	3.5%	3.3%
Shoulder Strain/Sprain	3.4%	2.8%	3.5%	3.8%	2.9%	2.2%	2.9%	2.6%	3.3%	2.6%	2.9%	2.7%	2.8%	3.6%	2.6%	2.9%	3.0%	3.1%	3.0%	2.9%
Trunk Strain/Sprain	2.9%	2.8%	3.2%	2.7%	2.6%	2.4%	1.9%	2.3%	1.7%	1.9%	1.5%	1.9%	2.6%	3.2%	2.3%	2.7%	2.1%	2.8%	2.6%	2.2%

* COVID-19 may have affected these results.

REPORTING INFORMATION ONLINE

Table 13.6 Time Loss of Injuries by Year, High School Sports-Related Injury Surveillance Study, US, 2005-06 to 2024-25 School Years *

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Time Loss																				
1-2 Days	21.8%	26.2%	22.1%	13.6%	14.7%	12.8%	15.9%	12.6%	14.9%	11.0%	16.3%	12.6%	21.2%	19.1%	17.5%	17.4%	16.6%	18.2%	19.9%	17.7%
3-6 Days	29.2%	28.1%	28.1%	28.2%	27.3%	25.2%	23.3%	23.6%	21.8%	22.0%	21.9%	22.0%	20.9%	22.5%	22.4%	22.5%	22.7%	22.5%	22.8%	23.5%
7-9 Days	14.9%	14.5%	15.4%	17.5%	16.1%	16.7%	16.1%	16.3%	16.7%	15.6%	12.9%	16.1%	12.8%	13.3%	15.3%	12.2%	14.8%	14.4%	13.9%	13.7%
10-21 Days	14.7%	13.9%	16.2%	19.5%	16.9%	19.2%	19.6%	21.3%	21.1%	22.1%	21.1%	21.6%	18.8%	21.0%	20.2%	18.7%	20.4%	19.9%	18.7%	20.5%
>21 Days	6.6%	6.9%	8.9%	13.6%	7.9%	6.9%	7.0%	7.7%	7.3%	8.9%	7.7%	7.8%	6.5%	5.6%	6.3%	5.0%	7.0%	5.6%	6.6%	7.4%
Other	12.9%	10.4%	9.4%	7.5%	17.1%	19.2%	18.0%	18.5%	18.2%	20.5%	20.0%	20.0%	19.8%	18.6%	18.4%	24.2%	18.6%	19.5%	18.2%	17.1%
Total	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

* Totals are not always equal to 100% due to slight rounding or missing responses. COVID-19 may have affected these results.

REPORTING INFORMATION ONLINE

Table 13.7 Injuries Requiring Surgery by Year, High School Sports-Related Injury Surveillance Study, US, 2005-06 to 2024-25 School Years *

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Required Surgery	5.1%	6.4%	6.1%	6.7%	8.1%	8.2%	6.7%	7.3%	7.6%	7.3%	6.1%	7.1%	5.7%	6.4%	6.6%	8.3%	5.5%	7.3%	6.6%	5.6%
Did Not Require Surgery	94.9%	93.6%	93.9%	93.3%	91.9%	91.8%	93.3%	92.7%	92.4%	92.7%	93.9%	92.9%	94.3%	93.6%	93.4%	91.7%	94.5%	92.7%	93.4%	94.4%
Total	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***	***100.0%***

* Totals are not always equal to 100% due to slight rounding or missing responses. COVID-19 may have affected these results.

REPORTING INFORMATION ONLINE

XIV. Reporter Demographics & Compliance

During the 2024-25 school year, 135 ATs enrolled to participate in the study. ATs were expected to report for every week in which they were enrolled. For example, an AT who joined the study as a replacement school in week 10 was not expected to report for weeks 1-9. Overall, 124 enrolled ATs reported an average of 42 study weeks with 122 ATs reporting for more than 20 weeks of the study. Internal validity checks of a 5% randomly selected sample of the 144 schools participating in the convenience sample during the 2022-23 academic year yielded 92.6% sensitivity, 95.8% specificity, a positive predictive value of 73.5%, and a negative predictive value of 99.0%. Internal validity checks are completed every three years. The next internal validity check will occur using data from the 2025-26 school year.

Prior to the start of the study, participating ATs were asked to complete a short demographics survey. The majority (89%) of participating high schools were public schools, with the remainder being private. All ATs except for thirteen provided services to their athletes five or more days each week. 76% of ATs participating during the 2024-25 school year had previously participated in the National High School Sports-Related Injury Surveillance Study.

An online “End of Season” survey gave all participating ATs (both in the original study as well as in the expanded study including those ATs who did not report any data) the opportunity to provide feedback on their experiences with the study. This survey was completed by 94 ATs (70%). Average reporting time burdens were 18 minutes for the weekly exposure report and 7 minutes for the injury report form. Using a 5-point Likert scale, RIO was overwhelmingly reported to be either very easy (52%) or somewhat easy (38%) to use (1 and 2 on the Likert scale, respectively), with ATs being either very satisfied (56%) or somewhat satisfied (35%) with the system (1 and 2 on the Likert scale, respectively). Suggestions provided by ATs, such as the addition or clarification of questions or answer choices, will be used to improve the National High School Sports-Related Injury Surveillance Study for the 2025-26 school year.

REPORTING INFORMATION ONLINE

XV. SUMMARY

High school sports play an important role in the adoption and maintenance of a physically active lifestyle among millions of US adolescents. Too often, injury prevention in this population is overlooked as sports-related injuries are thought to be unavoidable. In reality, sports-related injuries are largely preventable through the application of evidence-based preventive interventions. Such preventive interventions can include educational campaigns, introduction of new or improved protective equipment, rule changes, other policy changes, etc. The morbidity, mortality, and disability caused by high school sports-related injuries can be reduced through the development and implementation of improved injury diagnosis and treatment modalities as well as through effective prevention strategies. However, surveillance of exposure-based injury rates in a nationally representative sample of high school athletes and subsequent epidemiologic analysis of patterns of injury are needed to drive evidence-based prevention practices.

Prior to the implementation of the National High School Sports-Related Injury Surveillance Study, the study of high school sports-related injuries had largely been limited by an inability to calculate injury rates due to a lack of exposure data (i.e., frequency of participation in athletic activities including practice and competition), an inability to compare findings across groups (i.e., sports/activities, genders, schools, and levels of competition), or an inability to generalize findings from small non-representative samples. The value of national injury surveillance studies that collect injury, exposure, and risk factor data from representative samples has been well demonstrated by the National Collegiate Athletic Association's Injury Surveillance System (NCAA ISS), now known as the Injury Surveillance Program (ISP). Data collected by the NCAA has been used to develop preventive interventions including increased use of protective equipment and rule changes that have had proven success in reducing injuries among collegiate athletes.

For example, NCAA ISP data have been used to develop several interventions intended to reduce the number of preseason heat-related football injuries including the elimination of consecutive days of multiple practices, daily time limitations, and a gradual increase in equipment for conditioning and heat acclimation. Additionally, several committees have considered NCAA ISP data when making recommendations including the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports' recommendation for mandatory eye protection in women's lacrosse, the NCAA Men's Ice Hockey Rules Committee's recommendation for stricter penalties for hitting from behind, checking into the boards, and not wearing a mouthpiece, and the NCAA Men's Basketball Rules Committee's discussions of widening the free-throw lane to prevent injuries related to player contact. Unfortunately, because an equivalent injury surveillance system to collect injury and exposure data from a nationally representative sample of high school athletes had not previously existed, injury prevention efforts targeted to reduce injury rates in this population were based largely upon data collected from collegiate athletes. This is unacceptable because distinct biophysiological differences (e.g., lower muscle mass, immature growth plates, etc.) means high school athletes are not merely miniature versions of their collegiate counterparts.

The successful implementation and maintenance of the National High School Sports-Related Injury Surveillance Study demonstrates the value of a national injury surveillance system at the high school level. Dr. Collins and her research staff are committed to maintaining a permanent national high school sports injury surveillance system.

While the health benefits of a physically active lifestyle including sports participation are undeniable, participants are at risk of injury because a certain endemic level of injury can be expected during any physical activity, especially those with a competitive component. However, injury rates among high school athletes should be reduced to the lowest possible level without discouraging adolescents from engaging in this important form of physical activity. This goal can be best accomplished by monitoring injury rates and patterns of injury among high school athletes over time; investigating the etiology of preventable injuries; and developing, implementing, and evaluating evidence-based preventive interventions. Surveillance systems such as the model used for this study are critical in achieving these goals.