

# BASEBALL

## SUMMARY REPORT

NATIONAL HIGH SCHOOL SPORTS-RELATED INJURY SURVEILLANCE STUDY

2013-2014 School Year

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# High School RIO™

High School Sports-Related Injury Surveillance Study

presented by the Center for Injury Research & Policy



## **X. Baseball Injury Epidemiology**

**Table 10.1 Baseball Injury Rates by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**

	# Injuries	# Exposures	Injury rate (per 1,000 athlete- exposures)	Nationally Estimated # Injuries
<b>Total</b>	<b>188</b>	<b>187,034</b>	<b>1.01</b>	<b>62,493</b>
Competition	112	66,805	1.68	37,682
Practice	76	120,229	0.63	24,811

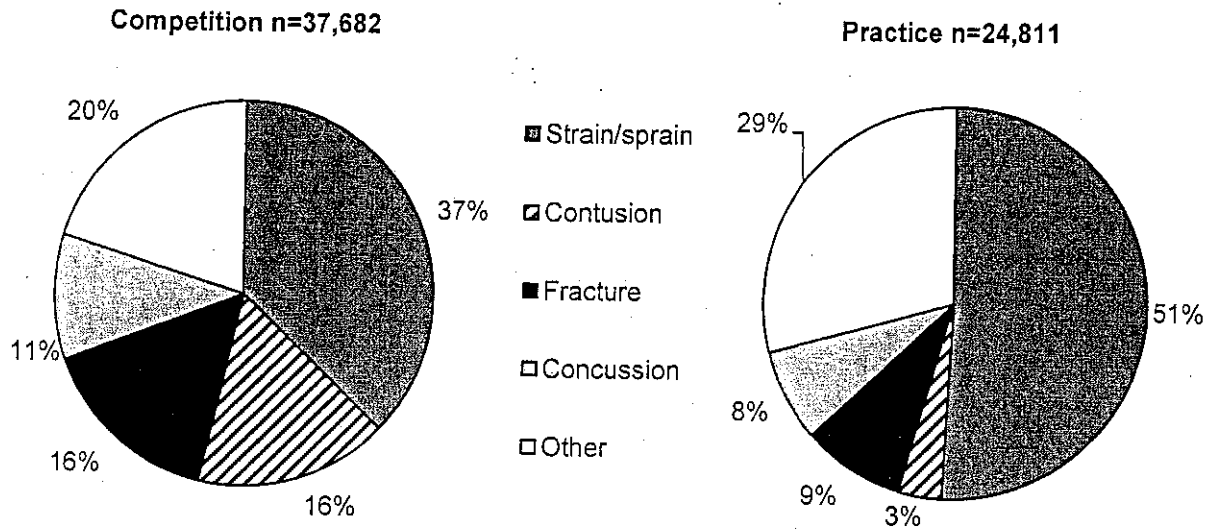
**Table 10.2 Demographic Characteristics of Injured Baseball Athletes, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year\***

<b>Year in School</b>	<b>n=62,102</b>
Freshman	21.5%
Sophomore	27.9%
Junior	20.3%
Senior	30.3%
<b>Total†</b>	<b>100%</b>
<b>Age (years)</b>	
Minimum	14
Maximum	18
Mean (St. Dev.)	16.0 (1.2)
<b>BMI</b>	
Minimum	17.2
Maximum	41.9
Mean (St. Dev.)	24.6 (3.9)

\*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 10.1 Diagnosis of Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**



**Table 10.3 Body Site of Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year\***

Body Site	Competition		Practice		Overall	
	n	%	n	%	n	%
Head/face	7,037	18.7%	4,020	16.2%	11,057	17.7%
Hand/wrist	8,495	22.5%	1,927	7.8%	10,422	16.7%
Ankle	3,081	8.2%	4,987	20.1%	8,068	12.9%
Shoulder	1,226	3.3%	6,778	27.3%	8,004	12.8%
Hip/thigh/upper leg	5,202	13.8%	1,888	7.6%	7,090	11.3%
Arm/elbow	3,814	10.1%	1,864	7.5%	5,678	9.1%
Knee	4,996	13.3%	654	2.6%	5,650	9.0%
Lower leg	1,728	4.6%	1,528	6.2%	3,256	5.2%
Trunk	1,313	3.5%	420	1.7%	1,733	2.8%
Foot	790	2.1%	0	0.0%	790	1.3%
Neck	0	0.0%	744	3.0%	744	1.2%
<b>Total</b>	<b>37,682</b>	<b>100%</b>	<b>24,810</b>	<b>100%</b>	<b>62,492</b>	<b>100%</b>

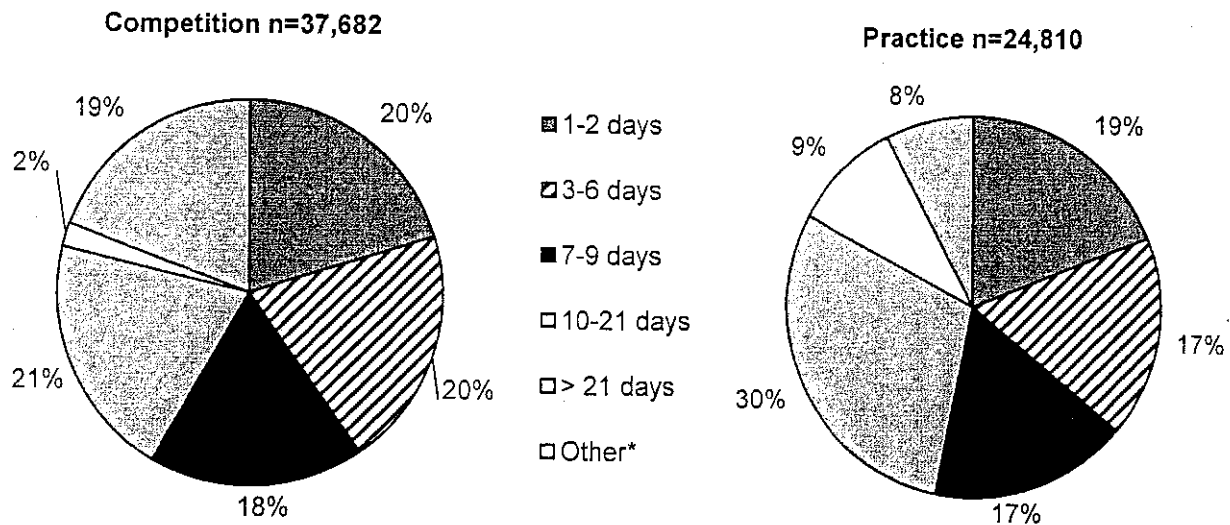
\* Totals and n's are not always equal due to slight rounding of the weighted number of injuries and missing responses. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

**Table 10.4 Ten Most Common Baseball Injury Diagnoses by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year\***

Diagnosis	Competition n=37,682		Practice n=24,812		Total n=62,494	
	n	%	n	%	n	%
Ankle strain/sprain	3,081	8.2%	4,596	18.5%	7,677	12.3%
Head/face concussion	4,002	10.6%	1,920	7.7%	5,922	9.5%
Hip/thigh/upper leg strain/sprain	4,033	10.7%	1,700	6.9%	5,733	9.2%
Hand/wrist fracture	3,379	9.0%	809	3.3%	4,188	6.7%
Shoulder other	835	2.2%	3,028	12.2%	3,863	6.2%
Shoulder strain/sprain	0	0.0%	3,749	15.1%	3,749	6.0%
Arm/elbow strain/sprain	2,273	6.0%	604	2.4%	2,877	4.6%
Hand/wrist other	2,424	6.4%	254	1.0%	2,678	4.3%
Knee strain/sprain	2,067	5.5%	391	1.6%	2,458	3.9%
Arm/elbow other	795	2.1%	1,261	5.1%	2,056	3.3%

\* 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.

**Figure 10.2 Time Loss of Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**



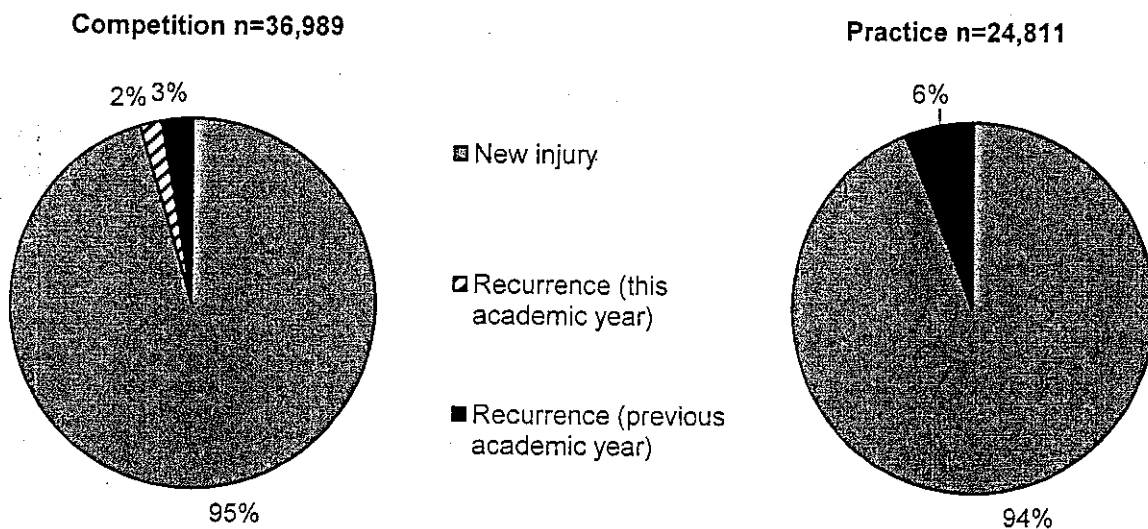
\*Other category is made up of medical disqualification for season, medical disqualification for career, athlete chooses not to continue, and season ended before athlete returned to play

**Table 10.5 Baseball Injuries Requiring Surgery by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year\***

	Competition		Practice		Overall	
	n	%	n	%	n	%
<b>Need for surgery</b>						
Required surgery	3,030	8.1%	719	3.0%	3,749	6.1%
Did not require surgery	34,308	91.9%	23,348	97.0%	57,656	93.9%
<b>Total</b>	<b>37,338</b>	<b>100%</b>	<b>24,067</b>	<b>100%</b>	<b>61,405</b>	<b>100%</b>

\* 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.

**Figure 10.3 History of Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**



**Table 10.6 Time during Season of Baseball Injuries, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year\***

	n	%
<b>Time in Season</b>		
Preseason	11,918	20.3%
Regular season	43,940	74.8%
Post season	2,916	5.0%
<b>Total</b>	<b>58,774</b>	<b>100%</b>

\* 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 10.7 Competition-Related Variables for Baseball Injuries, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year\***

	n	%
<b>Time in Competition</b>		
Pre-competition/warm-ups	2,320	6.9%
First inning	3,037	9.1%
Second inning	3,055	9.1%
Third inning	5,654	16.9%
Fourth inning	10,220	30.5%
Fifth inning	4,369	13.0%
Sixth inning	3,524	10.5%
Seventh inning	1,140	3.4%
Extra innings	188	0.6%
<b>Total</b>	<b>33,508</b>	<b>100%</b>
<b>Field Location</b>		
Home plate	11,308	33.0%
Second base	5,718	16.7%
First base	5,577	16.3%
Outfield	4,030	11.7%
Third base	3,452	10.1%
Pitcher's mound	2,127	6.2%
Foul territory	835	2.4%
Infield	482	1.4%
Other	785	2.3%
<b>Total</b>	<b>34,314</b>	<b>100%</b>

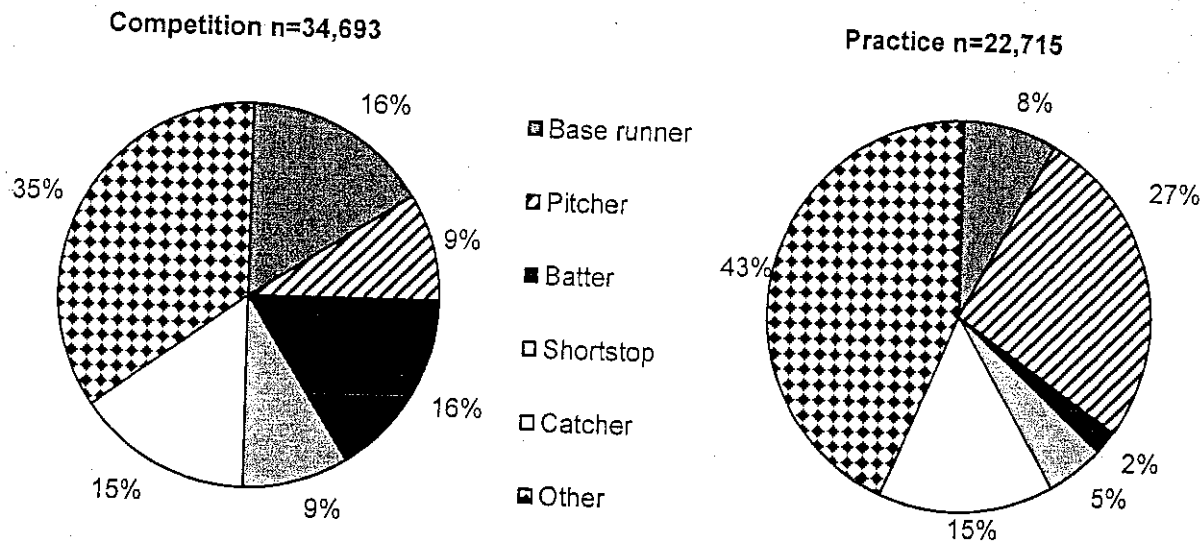
\* Totals and n's are not always equal due to slight rounding of the weighted number of injuries and missing responses. Due to a low level of non-response, these totals are always similar but are not always equal to the total number of injuries.

**Table 10.8 Practice-Related Variables for Baseball Injuries, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year\***

	n	%
<b>Time in Practice</b>		
First 1/2 hour	1,214	5.4%
Second 1/2 hour	5,513	24.6%
1-2 hours into practice	13,960	62.2%
>2 hours into practice	1,769	7.9%
<b>Total</b>	<b>22,456</b>	<b>100%</b>

\* 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.

**Figure 10.4 Player Position of Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**

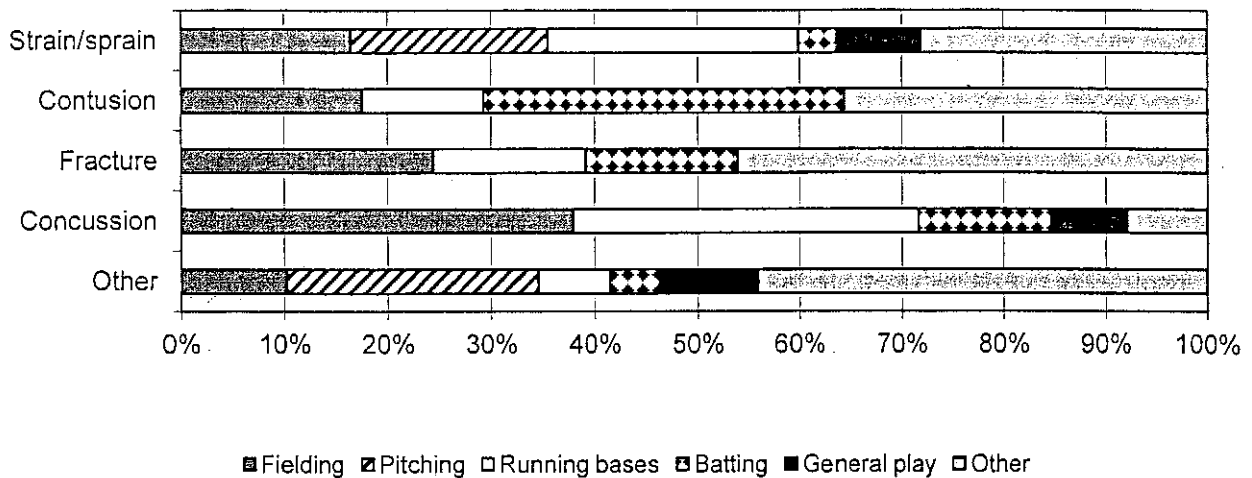


**Table 10.9 Activities Leading to Baseball Injuries by Type of Exposure, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year\***

Activity	Competition		Practice		Overall	
	n	%	n	%	n	%
Running bases	7,957	22.7%	2,614	11.2%	10,571	18.1%
Fielding a batted ball	3,917	11.2%	5,073	21.7%	8,990	15.4%
Pitching	2,598	7.4%	5,380	23.1%	7,978	13.7%
Batting	5,161	14.7%	764	3.3%	5,925	10.1%
Sliding	5,563	15.9%	92	0.4%	5,655	9.7%
Throwing (not pitching)	1,741	5.0%	3,270	14.0%	5,011	8.6%
General play	1,658	4.7%	2,066	8.9%	3,724	6.4%
Catching	2,504	7.1%	1,172	5.0%	3,676	6.3%
Conditioning	0	0.0%	1,833	7.9%	1,833	3.1%
Fielding a thrown ball	907	2.6%	671	2.9%	1,578	2.7%
Other	3,053	8.7%	391	1.7%	3,444	5.9%
<b>Total</b>	<b>35,059</b>	<b>100%</b>	<b>23,326</b>	<b>100%</b>	<b>58,385</b>	<b>100%</b>

\* 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.

**Figure 10.5 Activity Resulting in Baseball Injuries by Injury Diagnosis, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**



## **XII. Gender Differences within Sports**

### 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, 2013-14 School Year**

	Baseball	Softball	RR (95% CI)
<b>Total</b>	<b>1.01</b>	0.99	1.02 (0.82, 1.27)
Competition	<b>1.68</b>	1.09	<b>1.54 (1.11, 2.16)</b>
Practice	0.63	<b>0.93</b>	<b>1.48 (1.08, 2.02)</b>

**Table 12.16 Comparison of Body Sites of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**

Body Site	Baseball	Softball	IPR (95% CI)
Ankle	12.9%	<b>16.8%</b>	1.30 (0.66, 2.57)
Knee	9.0%	<b>11.1%</b>	1.23 (0.53, 2.81)
Head/face	17.7%	<b>27.2%</b>	1.54 (0.93, 2.55)
Hip/thigh/upper leg	<b>11.3%</b>	10.8%	1.08 (0.46, 2.38)
Hand/wrist	<b>16.7%</b>	10.4%	1.60 (0.78, 3.27)
Shoulder	<b>12.8%</b>	10.5%	1.22 (0.55, 2.70)
Trunk	2.8%	<b>4.2%</b>	1.52 (0.42, 5.47)
Lower leg	5.2%	<b>5.8%</b>	1.11 (0.38, 3.27)
Arm/elbow	<b>9.1%</b>	2.5%	3.70 (0.81, 16.86)
Foot	<b>1.3%</b>	0.7%	1.77 (0.15, 21.55)
Neck	<b>1.2%</b>	0.0%	-
<b>Total</b>	<b>100%</b>	<b>100%</b>	---

**Table 12.17 Comparison of Diagnoses of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**

	Baseball	Softball	IPR (95% CI)
<b>Diagnosis</b>			
Strain/sprain	42.6%	39.6%	1.08 (0.77, 1.51)
Contusion	11.3%	7.9%	1.44 (0.65, 3.15)
Fracture	12.9%	9.8%	1.31 (0.64, 2.69)
Concussion	9.5%	18.7%	1.98 (0.99, 3.96)
Other	23.7%	24.0%	1.01 (0.62, 1.65)
<b>Total</b>	<b>100%</b>	<b>100%</b>	---

**Table 12.18 Most Common Baseball and Softball Injury Diagnoses\*, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**

	Baseball	Softball	IPR (95% CI)
<b>Diagnosis</b>			
Ankle strain/sprain	12.3%	14.8%	1.21 (0.58, 2.50)
Hand/wrist fracture	6.7%	6.4%	1.04 (0.37, 2.91)
Head/face concussion	9.5%	18.7%	1.98 (0.99, 3.96)
Hip/thigh/upper leg strain/sprain	9.2%	7.9%	1.17 (0.44, 3.09)
Knee strain/sprain	3.9%	6.3%	1.59 (0.48, 5.24)

\*Only includes diagnoses accounting for >5% of baseball or softball injuries.

**Table 12.19 Comparison of Time Loss of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**

	Baseball	Softball	IPR (95% CI)
<b>Time Loss</b>			
1-2 days	19.7%	17.3%	1.14 (0.63, 2.04)
3-6 days	18.9%	22.3%	1.18 (0.69, 2.00)
7-9 days	17.7%	16.6%	1.06 (0.59, 1.93)
10-21 days	24.1%	18.1%	1.33 (0.76, 2.33)
22 days or more	5.0%	13.0%	2.62 (0.96, 7.20)
Other	14.7%	12.7%	1.16 (0.60, 2.25)
<b>Total</b>	<b>100%</b>	<b>100%</b>	---

**Table 12.20 Comparison of Mechanisms of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**

	Baseball	Softball	IPR (95% CI)
<b>Baseball/Softball Mechanism</b>			
Overuse, heat illness, conditioning, etc.	10.1%	<b>18.2%</b>	1.80 (0.90, 3.61)
Contact with another player	10.2%	<b>15.5%</b>	1.51 (0.73, 3.13)
Contact with bases	10.1%	<b>11.7%</b>	1.15 (0.49, 2.69)
Throwing - not pitching	<b>8.6%</b>	6.8%	1.27 (0.48, 3.36)
Throwing - pitching	<b>11.1%</b>	0.9%	<b>11.69 (2.00, 68.25)</b>
Contact with thrown ball (non-pitch)	3.5%	<b>11.1%</b>	<b>3.18 (1.17, 8.66)</b>
Rotation around a planted foot/inversion	<b>11.4%</b>	8.3%	1.37 (0.59, 3.22)
Hit by batted ball	9.3%	<b>9.3%</b>	1.00 (0.42, 2.40)
Hit by pitch	<b>8.8%</b>	5.5%	1.60 (0.55, 4.67)
Other	16.2%	<b>16.6%</b>	1.02 (0.55, 1.90)
<b>Total</b>	<b>100%</b>	<b>100%</b>	---

**Table 12.21 Comparison of Activities of Baseball and Softball Injuries, High School Sports-Related Injury Surveillance Study, US, 2013-14 School Year**

	Baseball	Softball	IPR (95% CI)
<b>Baseball/Softball Activity</b>			
Fielding a batted ball	15.4%	<b>25.8%</b>	1.67 (0.95, 2.94)
Fielding a thrown ball	2.7%	<b>6.3%</b>	2.32 (0.80, 6.74)
Running bases	<b>18.1%</b>	16.6%	1.09 (0.58, 2.05)
Pitching	<b>13.7%</b>	3.8%	<b>3.58 (1.05, 12.22)</b>
Batting	<b>10.1%</b>	5.5%	1.84 (0.65, 5.23)
Sliding	9.7%	<b>13.1%</b>	1.35 (0.60, 3.07)
Throwing (not pitching)	<b>8.6%</b>	6.8%	1.27 (0.48, 3.36)
General play	6.4%	<b>8.9%</b>	1.40 (0.55, 3.58)
Conditioning	3.1%	<b>4.5%</b>	1.42 (0.37, 5.48)
Catching	<b>6.3%</b>	3.8%	1.66 (0.43, 6.40)
Other	<b>5.9%</b>	5.0%	1.18 (0.35, 4.01)
<b>Total</b>	<b>100%</b>	<b>100%</b>	---

### **XIII. Trends over Time**

**Table 13.1 Injury Rates by Sport, Type of Exposure, and Year, High School Sports-Related Injury Surveillance Study, US, 2005/06-2013/14 School Years**

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	p-value for trend*
<b>Overall total</b>	2.51	2.59	2.31	2.01	2.10	1.97	2.17	2.16	2.18	0.068
<b>Competition</b>	4.63	4.88	4.45	4.05	4.19	4.10	4.26	4.31	4.22	0.071
<b>Practice</b>	1.69	1.75	1.52	1.26	1.32	1.16	1.40	1.34	1.39	0.058
<b>Boys' football total</b>	4.36	4.45	4.18	3.50	3.81	3.50	3.78	3.87	3.74	0.052
<b>Competition</b>	12.09	13.50	12.80	11.26	12.95	12.30	12.41	12.53	11.38	0.357
<b>Practice</b>	2.54	2.68	2.47	1.92	2.06	1.74	2.16	2.08	2.15	0.074
<b>Boys' soccer total</b>	<b>2.43</b>	<b>2.27</b>	<b>1.75</b>	<b>1.62</b>	<b>1.75</b>	<b>1.56</b>	<b>1.64</b>	<b>1.52</b>	<b>1.62</b>	<b>0.008</b>
<b>Competition</b>	<b>4.22</b>	<b>4.31</b>	<b>3.63</b>	<b>3.43</b>	<b>3.39</b>	<b>3.08</b>	<b>3.47</b>	<b>3.28</b>	<b>3.40</b>	<b>0.015</b>
<b>Practice</b>	<b>1.58</b>	<b>1.45</b>	<b>0.96</b>	<b>0.87</b>	<b>1.04</b>	<b>0.90</b>	<b>0.90</b>	<b>0.78</b>	<b>0.82</b>	<b>0.006</b>
<b>Girls' soccer total</b>	2.36	2.51	2.35	2.07	2.00	1.93	2.42	2.29	2.47	0.904
<b>Competition</b>	5.21	5.43	5.15	4.59	4.67	4.13	5.68	5.54	5.72	0.522
<b>Practice</b>	1.10	1.31	1.16	1.00	0.85	0.93	1.09	0.92	1.04	0.145
<b>Girls' volleyball total</b>	<b>1.64</b>	<b>1.37</b>	<b>1.22</b>	<b>0.89</b>	<b>0.99</b>	<b>0.96</b>	<b>1.00</b>	<b>0.89</b>	<b>0.99</b>	<b>0.011</b>
<b>Competition</b>	1.92	1.40	1.43	0.90	1.00	1.18	1.27	1.08	1.15	0.078
<b>Practice</b>	<b>1.48</b>	<b>1.36</b>	<b>1.12</b>	<b>0.88</b>	<b>0.99</b>	<b>0.85</b>	<b>0.85</b>	<b>0.78</b>	<b>0.91</b>	<b>0.004</b>
<b>Boys' basketball total</b>	1.89	1.75	1.39	1.35	1.45	1.34	1.40	1.47	1.45	0.075
<b>Competition</b>	2.98	2.87	2.23	2.32	2.72	2.30	2.60	2.44	2.40	0.176
<b>Practice</b>	<b>1.46</b>	<b>1.28</b>	<b>1.04</b>	<b>0.95</b>	<b>0.92</b>	<b>0.91</b>	<b>0.91</b>	<b>1.04</b>	<b>1.02</b>	<b>0.049</b>
<b>Girls' basketball total</b>	2.01	2.09	1.61	1.54	1.58	1.73	1.57	1.83	1.88	0.487
<b>Competition</b>	3.60	3.60	3.30	3.13	2.84	3.59	3.03	3.13	3.66	0.627
<b>Practice</b>	1.37	1.44	0.90	0.87	1.02	0.92	0.98	1.24	1.08	0.376
<b>Boys' wrestling total</b>	2.50	2.51	2.27	2.17	1.98	2.01	2.50	2.33	2.48	0.861
<b>Competition</b>	3.93	3.80	3.70	3.35	3.09	3.32	3.56	3.54	3.95	0.686
<b>Practice</b>	2.04	2.06	1.76	1.75	1.56	1.55	2.10	1.88	1.95	0.813
<b>Boys' baseball total</b>	1.19	1.25	0.93	0.78	0.82	0.81	0.83	0.88	1.01	0.141
<b>Competition</b>	1.77	2.01	1.37	1.32	1.27	1.49	1.14	1.30	1.68	0.224
<b>Practice</b>	0.87	0.82	0.68	0.48	0.57	0.46	0.65	0.66	0.63	0.164
<b>Girls' softball total</b>	1.13	1.11	1.29	1.04	1.12	0.94	1.46	1.15	0.99	0.882
<b>Competition</b>	1.78	1.96	1.86	1.62	1.66	1.45	2.04	1.96	1.09	0.299
<b>Practice</b>	0.79	0.65	0.98	0.72	0.85	0.69	1.16	0.73	0.93	0.412

\*Statistically significant tests for trend are bolded.

Table 13.2 Nationally Estimated Number of Injuries by Sport, Type of Exposure, and Year, High School Sports-Related Injury Surveillance Study, US, 2005/06-2013/14 School Years

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Overall total	1,442,533	1,472,849	1,419,723	1,248,126	1,359,897	1,195,815	1,392,262	1,361,986	1,427,315
Competition	759,334	766,512	763,034	690,525	754,091	711,642	740,493	779,055	790,966
Practice	683,199	706,337	656,689	557,601	605,805	484,173	651,769	582,931	636,349
Boys' football total	516,150	574,367	616,665	527,321	581,414	483,016	559,064	616,209	624,470
Competition	280,919	292,316	311,780	288,637	322,801	296,199	287,710	344,097	324,354
Practice	235,231	282,051	304,885	238,684	258,614	186,817	271,354	272,112	300,116
Boys' soccer total	218,760	171,874	159,351	149,229	153,485	138,974	172,070	149,049	149,278
Competition	119,703	93,295	99,785	87,082	83,985	81,238	97,540	89,429	90,683
Practice	99,058	78,579	59,566	62,147	69,500	57,736	74,530	59,620	58,595
Girls' soccer total	185,770	230,769	215,850	192,108	181,159	180,254	222,679	190,382	227,172
Competition	122,803	149,231	146,102	123,312	129,754	124,674	145,469	141,339	167,975
Practice	62,967	81,538	69,748	68,796	51,405	55,580	77,210	49,043	59,197
Girls' volleyball total	81,813	80,493	72,261	56,609	67,760	50,711	52,662	44,064	45,144
Competition	32,677	27,423	26,539	19,764	21,728	21,416	24,439	19,150	16,430
Practice	49,136	53,069	45,722	36,845	46,032	29,295	28,223	24,914	28,714

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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, 2005/06-2013/14 School Years (continued)**

	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Boys' basketball total	100,058	96,670	82,612	79,230	85,063	79,762	75,872	85,819	84,455
Competition	44,826	46,109	36,766	40,152	46,787	41,252	41,978	44,095	42,504
Practice	55,232	50,561	45,846	39,078	38,276	38,510	33,894	41,724	41,951
Girls' basketball total	103,566	102,831	73,283	64,933	78,709	83,033	67,280	83,107	89,451
Competition	53,812	53,703	45,236	38,277	44,026	53,931	37,213	45,645	50,864
Practice	49,753	49,128	28,047	26,656	34,684	29,102	30,067	37,462	38,587
Boys' wrestling total	105,542	101,139	91,625	88,996	80,390	80,569	107,992	85,485	91,203
Competition	36,259	38,750	40,698	39,029	37,742	36,536	40,235	35,016	39,378
Practice	69,283	62,389	50,927	49,967	42,647	44,033	67,757	50,469	51,825
Boys' baseball total	67,560	60,296	44,760	39,869	64,053	46,796	43,590	49,747	62,493
Competition	33,639	33,494	22,803	25,584	36,502	29,789	20,818	24,807	37,682
Practice	33,922	26,802	21,957	14,285	27,551	17,008	22,772	24,940	24,811
Girls' softball total	63,313	54,411	63,316	49,831	67,862	52,700	91,053	58,124	53,649
Competition	34,696	32,191	33,325	28,688	30,767	26,607	45,091	35,477	21,096
Practice	28,618	22,220	29,991	21,143	37,096	26,093	45,962	22,647	32,553

**Table 13.3 Body Site of Injury by Year, High School Sports-Related Injury Surveillance Study, US, 2005/06-2013/14 School Years\***

	2005-06 n=1,442,048	2006-07 n=1,464,926	2007-08 n=1,411,621	2008-09 n=1,248,126	2009-10 n=1,359,897	2010-11 n=1,194,319	2011-12 n=1,391,577	2012-13 n=1,361,584	2013-14 n=1,427,315
<b>Body Site</b>									
Ankle	22.7%	19.8%	18.5%	16.4%	17.5%	17.7%	16.1%	15.5%	16.9%
Knee	14.2%	16.6%	14.6%	14.8%	15.7%	14.2%	13.4%	14.8%	14.4%
Head/face	12.3%	12.4%	12.4%	15.3%	17.2%	23.3%	25.1%	25.7%	25.3%
Hip/thigh/upper leg	10.8%	10.5%	10.2%	10.3%	9.2%	8.3%	9.8%	9.5%	8.7%
Shoulder	7.9%	8.0%	10.1%	9.3%	8.4%	7.0%	6.6%	6.5%	8.5%
Hand/wrist	8.0%	7.5%	9.1%	8.5%	10.3%	8.9%	8.5%	7.4%	7.8%
Trunk	6.2%	6.7%	6.5%	6.6%	5.8%	4.7%	4.9%	5.2%	4.1%
Lower leg	4.6%	5.2%	5.7%	5.8%	4.7%	5.0%	4.5%	3.9%	4.9%
Arm/elbow	4.1%	3.9%	4.6%	4.1%	4.0%	3.1%	4.0%	3.5%	3.1%
Foot	4.0%	4.0%	4.2%	5.0%	4.1%	4.0%	3.4%	3.2%	2.8%
Neck	2.2%	1.9%	1.8%	1.9%	1.9%	1.8%	1.7%	2.3%	1.2%
Other	3.2%	3.6%	2.4%	2.1%	1.2%	2.1%	2.0%	2.5%	2.4%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

\*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.

**Table 13.4 Injury Diagnosis by Year, High School Sports-Related Injury Surveillance Study, US, 2005/06-2013/14 School Years**

Diagnosis	2005-06, n=1,444,172	2006-07, n=1,466,398	2007-08 n=1,414,139	2008-09 n=1,248,126	2009-10 n=1,359,897	2010-11 n=1,191,484	2011-12 n=1,392,262	2012-13 n=1,360,701	2013-14 n=1,427,315
Strain/sprain	52.0%	48.2%	48.3%	45.7%	44.7%	43.2%	42.2%	42.3%	41.7%
Contusion	12.2%	13.7%	12.4%	11.5%	14.0%	9.6%	10.8%	10.6%	9.4%
Fracture	9.8%	8.9%	10.2%	10.9%	9.9%	10.2%	7.7%	7.8%	7.6%
Concussion	9.1%	8.4%	9.2%	11.8%	14.0%	20.0%	22.2%	23.1%	21.9%
Other	16.8%	20.9%	19.9%	20.2%	17.5%	17.0%	17.1%	16.2%	19.4%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 13.5 Most Common Injury Diagnoses by Year, High School Sports-Related Injury Surveillance Study, US, 2005/06-2013/14 School Years**

Diagnosis	2005-06 n=1,435,954	2006-07 n=1,463,273	2007-08 n=1,410,654	2008-09 n=1,248,126	2009-10 n=1,359,897	2010-11 n=1,189,985	2011-12 n=1,388,873	2012-13 n=1,360,303	2013-14 n=1,426,018
Ankle strain/sprain	20.6%	17.8%	17.3%	15.0%	16.0%	16.3%	14.7%	14.5%	15.6%
Head/face concussion	9.0%	8.4%	9.2%	11.7%	13.9%	20.0%	22.2%	23.1%	21.9%
Knee strain/sprain	7.6%	8.8%	7.8%	7.9%	8.0%	7.7%	7.6%	8.2%	7.8%
Hip/thigh/upper leg strain/sprain	7.9%	7.7%	7.3%	7.7%	6.5%	6.4%	6.9%	6.7%	6.6%
Knee other	4.3%	4.9%	4.7%	4.5%	5.2%	4.8%	3.9%	4.1%	4.7%
Shoulder other	3.1%	3.7%	4.1%	4.0%	3.3%	3.7%	3.1%	3.4%	4.6%
Hand/wrist fracture	3.2%	3.3%	4.0%	4.0%	4.2%	4.0%	3.7%	3.2%	3.3%
Shoulder strain/sprain	3.4%	2.9%	3.4%	3.7%	3.3%	2.2%	2.9%	2.6%	3.3%
Trunk strain/sprain	2.8%	2.7%	3.2%	2.8%	2.5%	2.4%	1.9%	2.3%	1.7%
Hand/wrist strain/sprain	3.1%	2.5%	3.8%	2.9%	2.8%	2.8%	3.0%	2.5%	2.8%

**Table 13.6 Time Loss of Injuries by Year, High School Sports-Related Injury Surveillance Study, US, 2005/06-2013/14 School Years**

Time Loss	2005-06 n=1,378,145	2006-07 n=1,423,183	2007-08 n=1,355,981	2008-09 n= 1,248,126	2009-10 n= 1,359,897	2010-11 n=1,195,815	2011-12 n=1,392,262	2012-13 n=1,361,986	2013-14 n=1,427,312
1-2 days	22.5%	26.6%	22.8%	13.7%	14.7%	12.8%	15.9%	12.6%	14.9%
3-6 days	30.0%	28.5%	28.8%	28.5%	27.3%	25.2%	23.3%	23.6%	21.8%
7-9 days	15.3%	14.7%	15.8%	17.7%	16.1%	16.7%	16.1%	16.3%	16.7%
10-21 days	14.9%	14.1%	16.7%	19.7%	16.9%	19.2%	19.6%	21.3%	21.1%
≥22 days	17.2%	16.1%	15.9%	20.3%	25.0%	26.1%	25.0%	26.2%	25.5%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 13.7 Injuries Requiring Surgery by Year, High School Sports-Related Injury Surveillance Study, US, 2005/06-2013/14 School Years**

Need for surgery	2005-06 n=1,429,072	2006-07 n=1,428,960	2007-08 n=1,380,872	2008-09 n= 1,248,126	2009-10 n= 1,359,897	2010-11 n=1,169,423	2011-12 n=1,392,262	2012-13 n=1,337,403	2013-14 n=1,407,594
Required surgery	5.3%	6.4%	6.1%	6.7%	8.0%	8.2%	6.7%	7.3%	7.6%
Did not require surgery	94.7%	93.6%	93.9%	93.3%	92.0%	91.8%	93.3%	92.7%	92.4%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>