



NFHS INJURY SURVEILLANCE OVERVIEW

BASEBALL 2005/06 – 2013/14

- Information from the High School RIO Convenience Study:
- General injury patterns in 2013/14
 - Most commonly injured body sites included the shoulder (14.8%), head/face (12.8%), and hand (11.3%).
 - Most common diagnoses included sprain/strains (42.1%), contusions (13.7%), and fractures (12.8%).
 - Most common basic mechanisms associated with injury were contact with apparatus (30.8%) and no contact (29.9%).
 - This differs from most sports where player-player contact is the most common mechanism of injury
 - Most commonly injured positions were pitcher (19.6%), base runner (13.3%), and catcher and batter (11.1% each).
- Fractures from 2005/06 through 2013/14
 - Overall, from 2005/06 through 2013/14, the proportion of all baseball injuries that were fractures was 14.2%
 - Body sites most commonly fractured included hand (34.7%), head/face (including nose, mouth, teeth) (27.7%), and wrist (8.8%)
 - While 7.8% of all baseball injuries required surgery, 20.7% of all fractures required surgery
 - While 14.7% of all baseball injuries resulted in medical disqualification for the season or kept the athlete out for >22 days, 50.4% of fractures fell into these two categories
 - The most common specific mechanisms resulting in fracture included hit by batted ball (18.4%), hit by pitch (13.1%), contact with bases (12.7%) and contact with another player (11.0%).
 - Batters sustained 14.3% of fractures followed by base runners (11.5%), catchers and shortstops (9.7% each), and pitchers and third basemen (9.3% each).

- Shoulder injuries from 2005/06 through 2013/14
 - Overall, from 2005/06 through 2013/14, the proportion of all baseball injuries that were shoulder injuries was 14.8%
 - The most common diagnoses included strain/sprain (45.1%) tendonitis (18.9%), and dislocations (7.4%)
 - 8.5% of all shoulder injuries required surgery
 - 13.5% of all shoulder injuries were recurrent injuries
 - 31.7% of all shoulder injuries occurred during pre-season
 - The most common basic mechanism associated with shoulder injury was overuse/chronic/no contact (71.4%)
 - The most common specific activity associated with shoulder injury was pitching (28.8%) and the most commonly injured position was pitcher (37.8%)

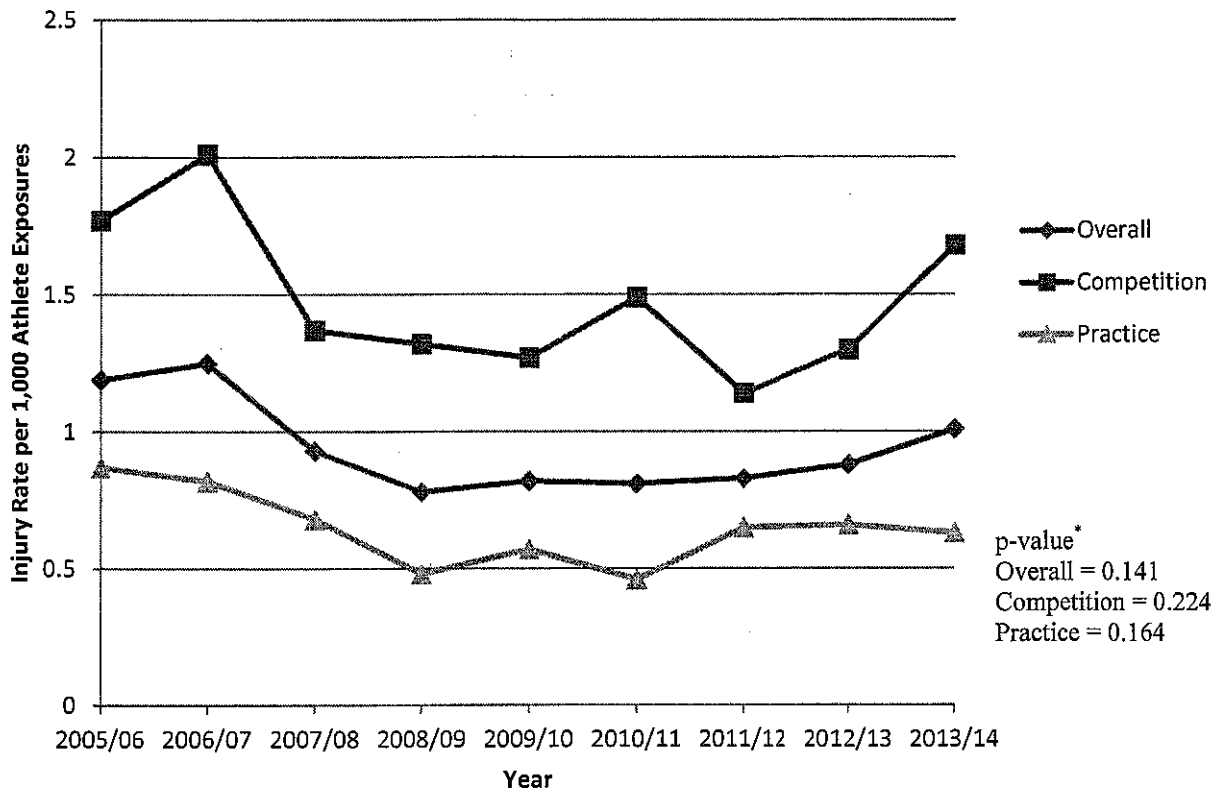
- Elbow injuries from 2005/06 through 2013/14
 - Overall, from 2005/06 through 2013/14, the proportion of all baseball injuries that were elbow injuries was 8.8%
 - The most common diagnoses were strain/sprain (46.3%) and tendonitis (20.0%)
 - 5.7% of all elbow injuries required surgery
 - 16.9% of all elbow injuries were recurrent injuries
 - The most common basic mechanism associated with elbow injury was overuse/chronic/no contact (72.9%)
 - The most common specific activity associated with injury was pitching (44.9%) and the most commonly injured position was pitcher (53.8%)

- Injuries sustained by pitchers from 2005/06 through 2013/14
 - Overall, from 2005/06 through 2013/14, 19.0% of all baseball injuries were sustained by pitchers.
 - The most commonly injured body sites were shoulder (29.6%) and elbow (25.0%)
 - The most common diagnoses were sprain/strain (47.0%), tendonitis (14.6%), and contusion (10.3%)
 - 21.2% of all practice-related injuries sustained by pitchers occurred during the first ½ hour of practice with another 9.1% occurring >2 hours into practice
 - The most common basic mechanisms associated with injury were no contact (35.2%) overuse/chronic (34.4%), and contact with playing apparatus (21.5%)
 - The most common specific activity was pitching (77.6%)

- Additional tables and figures regarding boys' baseball follow this synopsis.

1. Trends over time

Figure 1: Boys' Baseball Injury Rates over Time, High School RIO™, Original Study, 2005/06-2013/14



*p-value level of significance = 0.05

Table 1. Baseball Overuse/Chronic Injuries by Position, Original and Convenience Sample High School RIO™, 2005/06-2013/14 School Years

Position	Frequency	Percent
batter	7	2.7
base runner	3	1.2
pitcher	128	49.2
catcher	22	8.5
first base	12	4.6
second base	8	3.1
shortstop	17	6.5
third base	13	5.0
left field	13	5.0
center field	17	6.5
right field	8	3.1
non-field player (e.g., on deck, in dugout, etc.)	1	.4
other	4	1.5
Total	253	97.3
Missing System	7	2.7
Total	260	100.0

Table 2. Overuse/Chronic Injuries Among Pitchers by Body Site, Original and Convenience Sample High School RIO™, 2005/06-2013/14 School Years

	Body part injured	Frequency	Percent
Valid	neck/cervical spine	1	.8
	shoulder	65	50.8
	upper arm	3	2.3
	elbow	42	32.8
	forearm	4	3.1
	chest/t-spine/ribs	1	.8
	lower back/l-spine/pelvis	7	5.5
	hip	1	.8
	knee	1	.8
	lower leg	1	.8
	ankle	1	.8
	foot	1	.8
	Total	128	100.0

Table 3. Overuse/Chronic Injuries Among Pitchers by Diagnosis, Original and Convenience Sample High School RIO™, 2005/06-2013/14 School Years

Primary diagnosis	Frequency	Percent
bursitis	2	1.6
fracture	1	.8
inflammation	4	3.1
ligament sprain (complete tear)	1	.8
ligament sprain (incomplete tear)	4	3.1
muscle strain (incomplete tear)	6	4.7
nerve injury	1	.8
stress fracture	3	2.3
tendonitis	46	35.9
tendon strain (incomplete tear)	6	4.7
torn cartilage	3	2.3
other	7	5.5
avulsion	1	.8
ligament sprain	11	8.6
muscle strain	24	18.8
tendon strain	7	5.5
shin splints	1	.8
Total	128	100.0

Table 4. Overuse/Chronic Injuries Among Pitchers by Specific Mechanism, Original and Convenience Sample High School RIO™, 2005/06-2013/14 School Years

Baseball specific mechanism	Frequency	Percent
throwing - pitching	82	64.1
throwing - not pitching	2	1.6
NA (i.e. overuse, heat illness, conditioning, etc.)	43	33.6
other	1	.8
Total	128	100.0