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Original Research

An Epidemiologic Comparison of High School Sports Injuries Sustained in Practice and Competition

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Abstract

Context: More than 7 million US high school students play sports.

Objective: To compare practice and competition injury rates and patterns in 5 boys' sports (football, soccer, basketball, wrestling, and baseball) and 4 girls' sports (soccer, volleyball, basketball, and softball) during the 2005–2006 school year.

Design: Prospective injury surveillance study.

Setting: Injury data were collected from 100 nationally representative United States high schools via High School RIO ([Reporting Information Online](#)).

Patients or Other Participants: Athletes from participating high schools injured while participating in a school-sanctioned practice or competition in one of the above sports.

Main Outcome Measure(s): Practice and competition injury rates, body site, diagnosis, and severity.

Results: High school athletes participating in these 9 sports at participating schools sustained 4350 injuries during the 2005–2006 school year, which corresponds to an estimated 1 442 533 injuries nationally. The rate of injury per 1000 athlete-exposures was higher in competition (4.63) than in practice (1.69) (rate ratio [RR] = 2.73, 95% confidence interval [CI] = 2.58, 2.90). Of all sports, football had the highest competition (12.09) and practice (2.54) injury rates per 1000 athlete-exposures. Compared with injuries sustained during practice, higher proportions of competition injuries were head/face/neck injuries (proportion ratio [PR] = 1.61, 95% CI = 1.34, 1.94), particularly in boys' soccer (PR = 7.74, 95% CI = 2.53, 23.65) and girls' basketball (PR = 6.03, 95% CI = 2.39, 15.22). Competition injuries were more likely to be concussions (PR = 2.02, 95% CI = 1.56, 2.62), especially in boys' soccer (PR = 6.94, 95% CI = 2.01, 23.95) and girls' basketball (PR = 5.83, 95% CI = 2.06, 16.49). Higher proportions of competition injuries caused the athlete to miss more than 3 weeks of play (PR = 1.28, 95% CI = 1.08,

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1.52), particularly in baseball (PR = 3.47, 95% CI = 1.48, 8.11) and volleyball (PR = 2.88, 95% CI = 1.01, 8.24).

Conclusions: Rates and patterns of high school sport injuries differed between practice and competition. Providing athletic trainers with this information is a crucial step in developing the targeted, evidence-based interventions required to effectively reduce injury rates among the millions of high school student-athletes.

Keywords: [injury surveillance](#), [injury rates](#)

Julie Rechel contributed to analysis and interpretation of the data and drafting and final approval of the article. Ellen E. Yard, MPH, contributed to acquisition of the data and drafting, critical revision, and final approval of the article. R. Dawn Comstock, PhD, contributed to conception and design, acquisition of the data, and critical revision and final approval of the article.

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