



Velocity Project

Abstract—Research Report

Title: Quantifying Injury Burden in High School Track & Field Athletes

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Purpose

Many studies examined injury incidence in distance runners, but only 1 examined injury incidence in high school track and field (T&F) athletes inclusive of sprinting and field event participants. Furthermore, sports epidemiologists recommend using mean and median to determine the typical duration of time loss due to injury when assessing injury burden. The purpose of the study was to determine the injury incidence, typical time loss, and injury burden in high school T&F athletes.

Subjects

One hundred sixty-two T&F athletes (46% female; 35, 57, 38, 32 athletes were in grades 9-12, respectively)

Methods

A prospective cohort study included one high school T&F team during the 2025 Wisconsin Interscholastic Athletic Association (WIAA) season. Athletes reported when training was limited by pain or injury via an electronic survey at the beginning of practice. All injuries were evaluated and diagnosed by a licensed health care professional who also determined injury resolution. Injury incidence was calculated as the quotient of the total number running-related injuries (RRI) and total athletic exposures (e.g., practice, competition). The duration of time lost during the season due to injury is representative of injury severity and was calculated using both mean \pm SD

(TL_{ave}) and median [IQR] (TL_{med}). The injury burden was calculated as the product of injury incidence and severity.

Results

The 162 athletes experienced 30 RRI during the 2025 WIAA season, with an incidence of 5.14 injuries/1000 athletic exposures. The most common injuries were lower extremity muscle strains (14(46.7%) and exercise-related leg pain (10(33.3%). The mean time lost to injury was 38 ± 26 days; the median was 28[36] days. The injury burden (95% CI) was $TL_{med}=144$ (101, 206) days/1000 athletic exposures; $TL_{ave}=193$ (186, 276) days/1000 athletic exposures. Complete recovery within the season occurred for 15(50%) of injuries.

Conclusions

RRI incidence in this study was comparable to reports from the general running population, and the one previous report from high school T&F athletes. The days lost to injury represent a considerable portion of the 3-month WIAA season. The observed difference in TL_{med} and TL_{ave} indicates skew in the distribution of injury burden. Some athletes participate for nearly the entire season despite ongoing limitations due to RRI. Half of the injuries are season limiting because of the failure to recover before the season's conclusion. Despite predominantly musculoskeletal injuries with good healing potential, the injury burden of RRI injuries is substantial.

Clinical Relevance

Injury prevention measures and prompt initiation of rehabilitation are warranted to decrease the injury burden and facilitate optimal participation for high school T&F athletes. The observed injury burden includes a recovery trajectory that will extend beyond season completion. It would be wise for clinicians to assess return to sport relative to pre-injury metrics, rather than symptom severity which may wane at season conclusion.

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