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Injury rates of U.S. rugby-7s an Olympic collision sport: Using a novel injury surveillance tool the RISE report methodology



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Background: Rugby-7s is an emerging Olympic collision sport in the U.S. that is played with a high incidence of injury. There is limited injury data on Rugby-7s in emerging markets such as the U.S. The Rugby Injury Survey & Evaluation (RISE) report methodology was designed to collect injury data for U.S. rugby-7s.

Methods: RISE report methodology was used to collect injury incidence (per 1000 player hours (ph)) data among 24,418 U.S. amateur rugby-7's players competing at different levels: Under-19 (U19); college; adult/senior; sub-elite; and elite. Medical attention injuries (players injured with no absence from play), time-loss injuries (players who did not return to play after injured), and severity (days absent before return to training/competition including post tournament) were recorded.

Results: Rugby-7s medical attention and time-loss match injuries were prospectively collected in USA Rugby sanctioned tournaments (2010–2014) ($n=1570$; men = 73%; women = 27%). The time-loss injury rate (including all levels and both genders) was 34.4/1000 ph ($n=502$), with a mean injury severity of 44 days before return to sport in 68% with follow-up data. Elite players had the highest time-loss injury rate (43.5/1000 ph) (RR: 2.1; CI:

1.5–2.7; $p < 0.001$). Most time-loss injuries were new acute injuries among all levels of play (U19 76%, college 64%, senior 80%, sub-elite 77%, elite 70%) and occurred during the tackle (U19 80%, college 68%, senior 70%, sub-elite 70%, elite 69%). Recurrent injuries overall were frequent (23%) and recurrent time-loss injuries were observed at similar rates among all levels. Time-loss ligament injuries were most commonly seen (U19 30%, college 18%, senior 34%, sub-elite 35% and elite 34%) in the lower extremity (U19 41%, college 45%, senior 39%, sub-elite 46% and elite 52%) at all levels. The head/face was the most commonly injured body part (U19 21%, college 24%, senior 16%, sub-elite 18% and elite 20%).

Conclusions: Injury surveillance for U.S. rugby-7s is necessary to obtain age and level-specific injury data to nurture safe growth of Rugby-7s in all levels of play. Our observed injury rate levels were lower than those reported in elite international cohorts. U.S. elite cohorts had the highest observed injury rates among U.S. amateur rugby-7s playing levels. In our U.S. cohort, most match injuries occurred during tackling among all levels of competition. Injury data suggests education on tackling, return to play and post-tournament injury care may be important in prevention of match and recurrent injuries in all U.S. levels of play.

<https://doi.org/10.1016/j.jsams.2017.09.321>