

Background Rugby participation rates are rising, particularly in the female game where a 60% increase in player numbers was observed from 2013 to 2017. Despite the recent growth, the female amateur game is lacking comprehensive long-term injury surveillance.

Objective To compare injuries in male and female amateur Rugby Union.

Design Prospective cohort study.

Setting Irish amateur clubs, during seasons 2017/18 (n=15 male clubs, 4 female) and 2018/19 (n=25 male clubs, 7 female).

Participants Male (n=958) and female (n=234) amateur players.

Independent Variables Match exposure.

Main Outcome Measurements Match injury incidence and severity.

Results Overall incidence rates were 47.7 and 35.4/1,000 player hours for males and females respectively. Similarities existed between males and females regarding common diagnoses and injury occurrence, with 58% of injuries occurring during the tackle. Concussion and ankle lateral ligament injuries were the most common diagnoses for both males (5.5 and 4.1/1,000 player hours) and females (5.5 and 3.9/1,000 player hours). However differences showed females suffering more injuries in the ruck compared to males (6.1 vs 3.8/1,000 player hours) while males sustained more non-contact injuries compared to females (4.7 vs 1.4/1,000 player hours). Females showed an earlier injury occurrence in the 2nd quarter (9.4/1,000 player hours) plateauing into the 3rd and 4th quarters, whereas males had a 3rd quarter injury peak (15.2/1,000 player hours). Concussion had the highest injury burden in males (190days/1,000 player hours), while anterior cruciate ligament injuries had the highest burden (307days/1,000 player hours) in females.

Conclusions Long-term prospective injury surveillance is vital to inform targeted prevention strategies. The earlier occurrence of injury in females should be investigated further to determine whether player substitution strategies may decrease injuries. Prevention strategies incorporating neuromuscular training should be considered, given the high rate of ankle ligament injuries in both males and females, and the burden of knee ligament injuries in females.

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EFFECTS OF A STRENGTH AND PROPRIOCEPTIVE TRAINING PROGRAMME ON NECK FUNCTION AND CONCUSSION INJURY RISK IN ELITE SCOTTISH RUGBY UNION PLAYERS

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Background Cervical musculature function (strength, endurance, and proprioception) may be a modifiable risk factor for concussion in contact sports. The ability to enhance neck function and reduce concussive risk needs to be determined.

Objective To assess the efficacy of a training programme to enhance neck function and lower match concussion injury risk in rugby union players.

Design Repeated-measures intervention with control.

Setting Premiership rugby union players in Scotland during the 2018/19 season.

Patients (or Participants) Premiership players selected for Scotland Rugby academies (intervention group; INT; n = 30) or those with their clubs (control group; CON; n = 20).

Interventions (or Assessment of Risk Factors) A neck training programme was implemented twice per week during the 2018/19 season for INT, while CON performed no systematic neck training.

Main Outcome Measurements For both INT and CON neck strength (maximal voluntary contraction; MVC), endurance (exercise capacity; TTF) and proprioception pre- and post-season, and match concussion injury incidence were recorded.

Results Left and right cervical flexion MVC force and flexion TTF all significantly increased in the intervention group ($p < 0.001$), with no significant change in the control group. While there were increases in cervical flexion and extension MVC force in both groups from pre to post-season, there was a significantly greater increase amongst the intervention group ($p < 0.05$). Concussion incidence was lower in INT versus CON (INT: 7.7/1000 match hours; CON: 18.4/1000 match hours). However, this was not a significant alteration in risk (incidence rate ratio: 0.42; 95% CI: 0.08–2.1).

Conclusions The neck function programme increased cervical MVC force and flexion exercise capacity, beyond any changes induced by a season of rugby union. The intervention group also had a lower incidence of concussion across the season. This pilot study shows good promise and highlights the need for further investigation.

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COMPARISON OF INJURIES AND ILLNESSES BETWEEN REGULAR COMPETITION AND SHORT-TERM MATCH CONGESTION DURING A FULL SEASON IN ELITE MALE PROFESSIONAL BASKETBALL

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Background It is crucial to balance load and recovery during short-term match congestion in basketball. Currently, it is unknown if higher total load during short-term match congestion lead to higher injury and illness rates.

Objective Aim of this study was to compare injuries and illnesses and total weekly load during 1-match weeks compared to ≥ 2 -match weeks in basketball.

Design During this prospective observational study, players were monitored during a full season.

Setting Two basketball teams participating in the domestic-league championship, CUP matches and Euro league were followed.

Patients (or Participants) Sixteen elite male professional basketball players participated in this study. Characteristics of the players were (mean \pm SD): age 24.8 \pm 2.0 years, height 195.8 \pm 7.5 cm, weight 94.8 \pm 14.0 kg, body fat 11.9 \pm 5.0% and VO_{2max} 51.9 \pm 5.3 mL \cdot kg⁻¹ \cdot min⁻¹.