Match demands in elite women's English Premiership rugby union

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Abstract

Despite the growing popularity of women's rugby union over the past decade, little attention has been given to understanding the physical and technical demands specific to the sport. The aim of the study was to determine the match demands players are required to achieve during an elite level season and to identify if positional differences exist. Global positioning system (GPS) data were collected from one English Women's Premiership rugby union team over the course of the 2016/17 season. A total of 24 players in 8 games wore Catapult Minimax S4 units and data was obtained from players who had completed >60 minutes per game (total player games = 78). Players were classified according to specific position groups (front, second, back row, scrum half, inside and outside backs). Total and relative distances were calculated at the following movement intensities; 0-6 km/h (walking), 6.1-12 km/h (jogging), 12.1-14 km/h (slow running), 14.1-16 km/h (medium running), 16.1-18 km/h (fast running), >18.1 km/h (sprinting). Maximum velocity and player loads were calculated as an indication of overall player workload. Comparisons of mean values were made between playing positions with statistical significance determined using an independent measures ANOVA in SPSS v23. Mean total match distance was greatest for the second row (5185m±1570) and least for the outside backs (3778m±1281), with similar patterns for relative distances, although no position was significantly different from any other. Outside and inside backs covered a significantly greater distance at fast running (129m±88; 138m±100) and sprinting (90m±103; 76m±88) speeds, whereas the second row and scrum half covered significantly greater distances walking (2356m±667; 2477m±380) and jogging (1798m±530; 1716m±459) and the front row spent the greatest overall distance walking (2488m±629). Outside backs produced a significantly greater maximum velocity than all other positions (24.4km/h±1.95), inside backs were significantly faster than the forwards and scrum half (22.9km/h±2.28), with the front row having the slowest maximum velocity (20.3km/h±2.3). Mean player load was highest in the scrum half (559AU±101) and second row (531AU±140) and these were significantly higher than the outside backs. These findings indicate the demands placed on elite female rugby players are position specific and are different from male counterparts. These demands should be taken into account when setting training drills and match strategies.