

Positional Differences in Running Distance and Speed Among Collegiate Rugby 7s Players

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ABSTRACT

Rugby sevens (7s) is an anaerobic contact sport consisting of seven players per team, with two 7-minute halves per match played in tournament style with several matches over up to a three-day event. However, due to the nature of the collegiate game, less funding, and their academic schedule, the tournaments are commonly consolidated into one day (minimum 3, as many as 6 matches). While there are six positions in 7s, this study divided them into three groups: Forwards (FW), Backs (BK), and Scrum halves (SH).

PURPOSE: The purpose of this investigation was to identify the physiological and physical demands between positions of Indiana University 7s club players. **METHODS:** Data was retrospectively analyzed from male ($n = 15$) collegiate rugby 7s players. Data was collected at Indiana University using GameTraka (Sports Performance Tracking, Victoria, Australia) and data represented here are from one tournament consisting of 5 matches on the same day. Participants wore Global Positioning System (GPS) units from which information on distances run per minute by each position group (FW, BK, and SH) was measured within six different speed zones. A one-way ANOVA was used to determine between group differences by each half of play with Tukey post-hoc analyses to reveal differences between positions. A two-way repeated measures ANOVA was used to determine if differences existed across matches by player position. A p -value of <0.05 was set to determine the level of statistical significance. **RESULTS:** During the first half no significant differences were seen. In the second half of match #1, significant differences were found in Zone 1 running ($p = 0.004$) indicating that BK ran more than both FW ($p = 0.003$) and SH ($p = 0.05$). No significant differences were found in the second half of matches 2-4. Match #5 second half results indicated significant difference in distance per minute ($p = 0.022$) with both FW ($p = 0.036$) and SH ($p = 0.041$) covering more distance than BK. A main effect for zone 1 ($p = 0.015$) and zone 4 ($p = 0.003$) were observed with both FW ($p = 0.029$) and SH ($p = 0.003$) higher than BK. No significant differences were found across the five matches between position groups. GPS data indicate that the primary differences between position groups are observed in the second halves of rugby 7s matches. Data suggests that FW and SH have a higher distance covered per minute and spend more time in the different running zones as the number of matches increases. This could be a byproduct of a change in the quality of play as peripheral fatigue sets in as the match progresses. **CONCLUSION:** Data presented here can affect the training approaches for the various position groups as the data suggests a greater amount of physiological exertion is present in the later matches of tournament play. Data also may be useful to coaches in the strategic utilization of substituting players as substitutions per match are capped in rugby 7s.