ANALYSIS OF REPEATED-SPRINT SEQUENCES IN WELL-TRAINED YOUNG SOCCER PLAYERS

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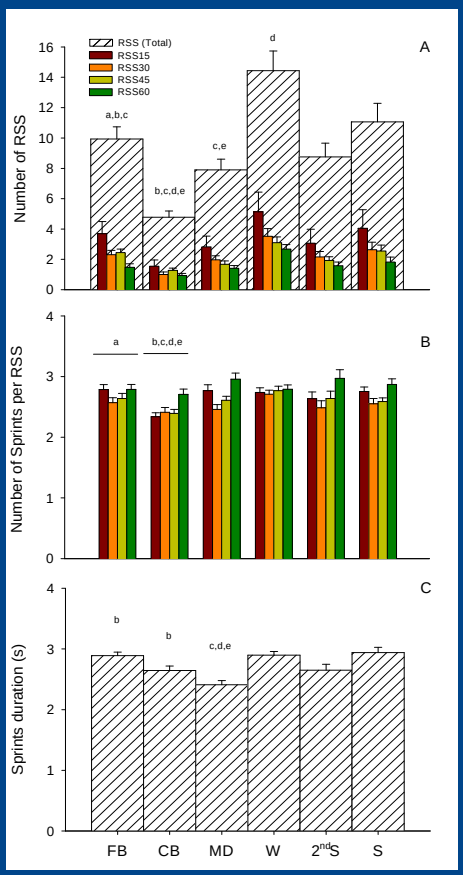
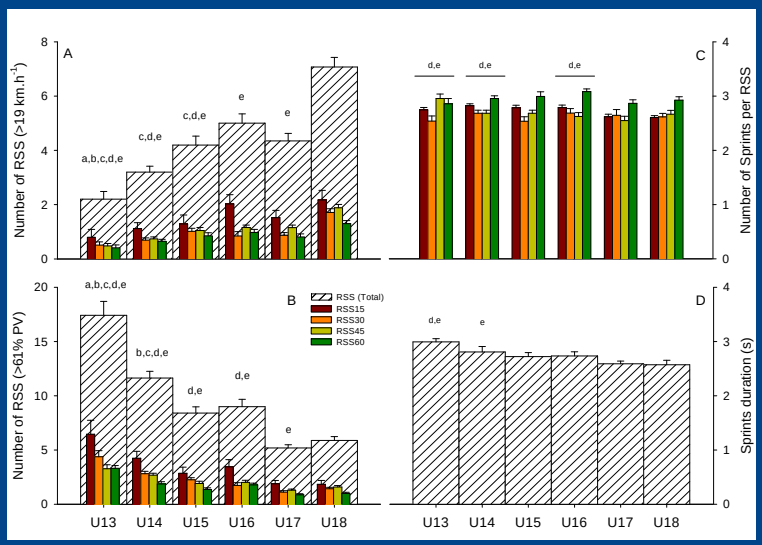
The **purpose** of this study was to examine the nature and occurrence of repeated-sprint sequences (RSS) in well-trained young soccer players, as a function of age, playing position and time.

Methods. Time-motion analyses using a global positioning system (GPS, 1 Hz, SPI Elite, GPSports, Canberra, Australia) were performed on 99 highly-trained young soccer (U13, U14, U15, U16, U17 and U18) players during 42 international games (i.e., 344 files). Sprint activities were defined as at least a 1-s run at intensities >19 km.h^{-1} or >61% of the individual peak running velocity; RSS, as a minimum of 2 consecutive sprints interspersed with a max. of 15, 30, 45 or 60s.

Results. The number of sprint per RSS was 2.5 ± 0.3, with no effect of age (Fig. 1 & 2). The younger teams presented more RSS than the older teams (P<0.001, Fig. 1). RSS occurrence was affected by playing position (P<0.01, Fig. 2), decreased during 2nd half (P<0.001) and ranged from 2 to 42 for U13, 0 (with 6% of player-matches with no RSS) to 43 for U14, 0 (26%) to 25 for U15, 1 to 33 for U16, 0 (27%) to 14 for U17 and 0 (20%) to 24 for U18.





↑ Fig. 1. Number of RSS (with RSS15, RSS30, RSS45 and RSS60 for sequences with 15, 30, 45 and 60 s of between-sprint recovery) using an absolute (19 km.h^{-1}, panel A) or a relative (61% of individual peak running velocity, panel B) speed threshold, number of sprints per RSS (using the relative threshold, panel C) and average sprints duration (panel D) observed during first halves in U13 (n = 43 files), U14 (n = 76 files), U15 (n = 50 files), U16 (n = 61 files), U17 (n = 48 files) and U18 (n = 66 files). a: significant difference vs. U14 (P<0.05), b: vs. U15, c: vs. U16, d: vs. U17, e: vs. U18. Data are mean ± SE.

←Fig. 2. Number of RSS (with RSS15, RSS30, RSS45 and RSS60 for sequences with 15, 30, 45 and 60 s of between-sprint recovery, panel A), number of sprints per RSS (using a relative threshold, i.e. 61% of individual peak velocity, panel B) and average duration (panel C) as a function of playing position (Full Backs (FB), Centre Backs (CB), Midfielders (MD), Wide Midfielders (W), Second Strikers (2ndS) and Strikers (S)) during the first halves with players from all teams pooled (FB, n = 72; CB, n = 69; MD, n = 67; W, n = 64; 2ndS, n = 36 and S, n = 36). a: significant difference vs. CB (P<0.05), b: vs. MD, c: vs. W, d: vs. 2ndS, e: vs. S. Data are mean ± SE.

Conclusions. Both the occurrence and the nature of RSS are affected by age, position and playing time. Present results also question the importance of RSA as a crucial physical component of soccer performance in developing players.