

## **High-intensity running in English FA Premier League soccer matches.**

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The aims of this study were to (1) determine the activity profiles of a large sample of English FA Premier League soccer players and (2) examine high-intensity running during elite-standard soccer matches for players in various playing positions. Twenty-eight English FA Premier League games were analysed during the 2005-2006 competitive season ( $n = 370$ ), using a multi-camera computerised tracking system. During a typical match, wide midfielders (3138 m,  $s = 565$ ) covered a greater distance in high-intensity running than central midfielders (2825 m,  $s = 473$ ,  $P = 0.04$ ), full-backs (2605 m,  $s = 387$ ,  $P < 0.01$ ), attackers (2341 m,  $s = 575$ ,  $P < 0.01$ ), and central defenders (1834 m,  $s = 256$ ,  $P < 0.01$ ). In the last 15 min of a game, high-intensity running distance was approximately 20% less than in the first 15-min period for wide midfielders (467 m,  $s = 104$  vs. 589 m,  $s = 134$ ,  $P < 0.01$ ), central midfielders (429 m,  $s = 106$  vs. 534 m,  $s = 99$ ,  $P < 0.01$ ), full-backs (389 m,  $s = 95$  vs. 481 m,  $s = 114$ ,  $P < 0.01$ ), attackers (348 m,  $s = 105$  vs. 438 m,  $s = 129$ ,  $P < 0.01$ ), and central defenders (276 m,  $s = 93$  vs. 344 m,  $s = 80$ ,  $P < 0.01$ ). There was a similar distance deficit for high-intensity running with (148 m,  $s = 78$  vs. 193 m,  $s = 96$ ,  $P < 0.01$ ) and without ball possession (229 m,  $s = 85$  vs. 278 m,  $s = 97$ ,  $P < 0.01$ ) between the last 15-min and first 15-min period of the game. Mean recovery time between very high-intensity running bouts was 72 s ( $s = 28$ ), with a 28% longer recovery time during the last 15 min than the first 15 min of the game (83 s,  $s = 26$  vs. 65 s,  $s = 20$ ,  $P < 0.01$ ). The decline in high-intensity running immediately after the most intense 5-min period was more evident in attackers (216 m,  $s = 50$  vs. 113 m,  $s = 47$ ,  $P < 0.01$ ) and central defenders (182 m,  $s = 26$  vs. 96 m,  $s = 39$ ,  $P < 0.01$ ). The results suggest that high-intensity running with and without ball possession is reduced during various phases of elite-standard soccer matches and the activity profiles and fatigue patterns vary among playing positions. The current findings provide valuable information about the high-intensity running patterns of a large sample of elite-standard soccer players, which could be useful in the development and prescription of specific training regimes.