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How incremented fatigue affects kicking performance of elite junior Australian footballers

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Introduction & Aims: Australian football (AF) is a dynamic team invasion sport that requires players to possess unique physical and technical performance attributes. However, as the speed of the game increases and the levels of high intensity running increase, so does the effects of fatigue. Research has investigated the effect of fatigue on maximal kicking distance kinematics however, it is yet to investigate the effects of fatigue on functional kicking performance (accuracy and speed).

Methods: Twenty-four participants from the 2015 WAFL U18s competition were tested. The valid AF Kicking (AFK) test was completed three times, with the Yo-Yo Intermittent recovery Test Level 2 (YYIRT2) performed between each AFK test. For each AFK test, two scorers assessed kicking accuracy, and a speed gun was used to measure ball speed. Descriptive statistics reported the difference in YYIRT2 scores and kicking speed and accuracy for each AFK test. Two linear mixed models (LMM) were produced, one for kicking accuracy and one for kicking speed, where these two variables were the dependant variables. For each LMM; kicking distance (short, medium, long), leg (dominant, non-dominant) and kicking test number (1, 2, 3) were factors. YYIRT2 scores were covariates, with the alpha level set at <.05.

Results: YYIRT2 score dropped 0.5 ± 0.5 score, between the two tests. Kicking accuracy and speed were not significantly different between the three AFK tests. The accuracy LMM found accuracy increased with participants who; kicked with their dominant leg, kicked to shorter distances during the AFK test, and decreased between the first and second AFK test. The speed LMM found speed increased with participants who; were less fatigued (higher YYIRT2 score), kicked with their dominant leg, and kicked to further distances during the AFK test.

Conclusion: The results of this study suggest that players who are of a higher fitness level (less fatigued) have greater kicking performance under test conditions.

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Award Nomination: I am not nominating this abstract for any of the above awards