

THE INFLUENCE OF PLAYING AREA AND SCORING SHOTS ON THE RUNNING DEMANDS OF AUSTRALIAN FOOTBALL UMPIRES

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Introduction

Australian football (AF) is played on a largely variable playing area and is controlled by up to nine umpires. AF umpires are required to make decisions influencing play while completing high-intensity intermittent exercise that is likely to vary with match constraints. The aim of this study was to determine the influence of playing area and scoring shots on the running demands of AF umpires.

Methods

The running demands of AF field (n=60) and boundary (n=37) were recorded across twenty AF matches using Minimax GPS monitors at 5 Hz. The total distance covered as well as the distance covered in low (<14.4 km·h⁻¹) and high (>14.4 km·h⁻¹) intensity activities were measured across each match. Playing area was calculated from GPS mapping of the boundary and all scoring shots (goals and behinds) were recorded for each match. Linear regression analysis was used to determine the influence of playing area and number of scoring shots with the running demands of the AF umpire cohort.

Results & Discussion

The total distance, and low and high-intensity distances covered by AF field and boundary umpires was 11.5 ± 1.73 km, 8.40 ± 0.92 km, 3.01 ± 0.75 km and 15.06 ± 0.75 km, 9.18 ± 0.67 km, 5.88 ± 1.6 km, respectively. Playing areas ranged between 11,760-16,673 m². Linear regression analysis reported that the playing area was significantly related to total distance covered ($\beta=0.404$, $p=0.003$) as well as low ($\beta=0.325$, $p=0.020$) and high-intensity ($\beta=0.387$, $p=0.007$) distances in AF field umpires. Playing area was also related to total distance ($\beta=0.555$, $p=0.001$) and low-intensity distance ($\beta=0.398$, $p=0.009$) covered by AF boundary umpires. The number of goals ($\beta=0.482$, $p=0.003$) and behinds ($\beta=0.535$, $p=0.001$) scored were significantly related to the low-intensity distance covered by AF boundary umpires.

Conclusion

The data concludes that playing area is a significant factor that influences the total distance covered by AF umpires, as well as the distance covered in high and low-intensity activities. It appears that the number of scoring shots in a match has little influence on the running demands of an AF umpire cohort.