

# **APPLICATIONS OF PORTABLE TRACKING TECHNOLOGY TO TALENT DEVELOPMENT IN TEAM SPORTS**

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A thesis submitted in total fulfilment of the requirements of the degree of Doctor of Philosophy

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## **Declaration**

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made. This thesis contains no material which has been accepted for the award of any other degree or diploma in any university.

## **Acknowledgements**

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## **Abstract**

Despite widespread current availability of motion analysis techniques in sport, little attention has been given to how the devices can be used to understand more about the gap between aspiring elite and elite team sport.

Therefore, the purpose of this thesis was to explore a number of applications of tracking technology, specifically Global Positioning Satellite (GPS) devices, to the development of talent within team sport.

This Thesis by Publication consists of 4 publications.

1. The first publication provided a review of relevant literature and practices of talent development within team sports in Australia.
2. Study one profiled the movement demands of professional Australian soccer during matches and found similar movement profiles to international data on soccer.
3. Study two outlined the discrepancy between Under 18 and Senior AFL movement demands and showed many key high intensity movement demands were significantly less in Under 18 than senior players.
4. Study three determined associations between five year career success in the AFL and physical draft camp tests, final draft selection order and objective analysis of previous match physical performance. Results showed physical match performance was important in predicted future AFL career success.

The accompanying review of literature has two sections:

1. The first section outlines the application of the information collected from GPS devices within team sports. This section offers some insight on some popular applications as well as some more innovative uses of the data within this environment.
2. The second part of the review comprises the published review of relevant literature and practices of talent development within team sports in Australia.

The final chapter collated the results of all four studies, revisited the original hypothesis and presented recommendations about broader application of GPS analysis in the transition between junior and senior professional ranks in team sports.