



691 | 15 | 10  
Views | CrossRef citations to date | Altmetric

Articles

# Leg mass characteristics of accurate and inaccurate kickers – an Australian football perspective

Nicolas H. Hart , Sophia Nimphius, Jodie L. Cochrane & Robert U. Newton

Pages 1647-1655 | Accepted 03 Apr 2013, Published online: 20 May 2013

Cite this article <https://doi.org/10.1080/02640414.2013.793377>

Sample our  
Sports and Leisure  
Journals  
>> [Sign in here](#) to start your access  
to the latest two volumes for 14 days

Full Article

Figures & data

References

Citations

Metrics

Reprints & Permissions

Read this article

Share

## Abstract

Athletic profiling provides valuable information to sport scientists, assisting in the optimal design of strength and conditioning programmes. Understanding the influence these physical characteristics may have on the generation of kicking accuracy is advantageous. The aim of this study was to profile and compare the lower limb mass characteristics of accurate and inaccurate Australian footballers. Thirty-one players were recruited from the Western Australian Football League to perform ten drop punt kicks over 20 metres to a player target. Players were separated into accurate ( $n = 15$ ) and inaccurate ( $n = 16$ ) groups, with leg mass characteristics assessed using whole body dual energy x-ray absorptiometry (DXA) scans. Accurate kickers demonstrated significantly greater relative lean mass ( $P \leq 0.004$ ) and significantly lower relative fat mass ( $P \leq 0.024$ ) across all segments of the kicking and support limbs, while also exhibiting significantly higher intra-limb lean-to-fat mass ratios for all segments across

both limbs ( $P \leq 0.009$ ). Inaccurate kickers also produced significantly larger asymmetries between limbs than accurate kickers ( $P \leq 0.028$ ), showing considerably lower lean mass in their support leg. These results illustrate a difference in leg mass characteristics between accurate and inaccurate kickers, highlighting the potential influence these may have on technical proficiency of the drop punt.

Keywords:

- lean
- fat
- relative
- muscle mass
- asymmetry
- drop punt

## Acknowledgements

The authors would like to thank and acknowledge Chris Dorman (strength and conditioning coach, West Perth Football Club) and his athletes for their participation in this project. No external funding was received for this work.

## Related research

People also read	Recommended articles	Cited by 15
------------------	----------------------	----------------

## Information for

[Authors](#)

[R&D professionals](#)

[Editors](#)

[Librarians](#)

[Societies](#)

## Opportunities

[Reprints and e-prints](#)

[Advertising solutions](#)

[Accelerated publication](#)

[Corporate access solutions](#)

## Open access

[Overview](#)

[Open journals](#)

[Open Select](#)

[Dove Medical Press](#)

[F1000Research](#)

## Help and information

[Help and contact](#)

[Newsroom](#)

[All journals](#)

[Books](#)

## Keep up to date

Register to receive personalised research and resources by email



Sign me up



Copyright © 2025 Informa UK Limited [Privacy policy](#) [Cookies](#) [Terms & conditions](#)

[Accessibility](#)



Taylor & Francis Group  
an informa business

Registered in England & Wales No. 01072954  
5 Howick Place | London | SW1P 1WG