



161

Views

1

CrossRef citations
to date

1

Altmetric

Biomechanics

Relationship of performance on the sensory organization test to landing characteristics

Caleb D. Johnson , Valerie J. Williams, Nicholas R. Heebner, Meleesa F. Wohleber, Andrew J. Simonson, Deirdre M. Rafferty, [...show all](#)

Pages 1155-1161 | Accepted 26 Jul 2017, Published online: 04 Aug 2017

 Download citation <https://doi.org/10.1080/02640414.2017.1363402>

Full Article

Figures & data

References

Citations

Metrics

Reprints & Permissions

Get access

 Select Language
Translator disclaimer

ABSTRACT

Jump landing tasks have been used to assess landing characteristics and require significant sensorimotor feedback to maintain functional joint stability (FJS) throughout the task. Postural stability (PS) also requires significant sensorimotor feedback and control and would seemingly involve similar sensory feedback pathways. However, previous literature clarifying the relationship between these two processes, maintaining FJS and PS, is limited. 80 Special Tactics Operators. PS was assessed using the Sensory Organization Test (SOT). SOT variables included: Composite, Somatosensory, Visual, Vestibular, and Preference scores. Landing characteristics were assessed using motion analysis during a double-legged (DLS) and single-legged (SLS) stop jump task. Pearson's correlation coefficients were calculated to assess the relationship between SOT scores and landing characteristics ($\alpha < .05$). For the DLSJ, significant correlations were found between: Composite and peak posterior ground reaction forces ($-.257$), Vestibular and peak knee abduction moment ($-.237$), and Preference and initial contact hip flexion ($-.297$), peak hip flexion ($-.249$). For the SLSJ, significant correlations were found between: Somatosensory and peak vertical ground reaction forces ($-.246$); Preference and initial contact hip flexion ($-.295$), peak hip flexion ($-.262$). The results indicate that the SOT may not be a sensitive enough tool to assess sensorimotor control in a healthy, athletic population.

KEYWORDS: Postural stability, stop-jump, landing mechanics, sensory organization test, SOT

Additional information

Funding

This work was supported by the 711 HPW/RH [FA8650-12-2-6271].

Acknowledgments

This material is based on research sponsored by 711 HPW/RH under agreement number FA8650-12-2-6271. The U.S. Government is authorized to reproduce and distribute reprints for governmental purposes notwithstanding any copyright notation thereon.

Disclosure statement

No potential conflict of interest was reported by the authors.

People also read

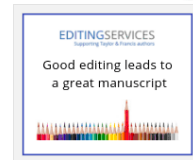
Article

Where science meets practice: Olympic coaches' crafting of the tapering process >

Darren Ritchie et al.

Journal of Sports Sciences
Volume 36, 2018 - Issue 10

Published online: 7 Aug 2017

Sample Our
Behavioral Sciences journals

Article

Factors associated with using research evidence in national sport organisations >

Nicholas L. Holt et al.

Journal of Sports Sciences
Volume 36, 2018 - Issue 10

Published online: 25 Jul 2017



Article

Effects of inter-limb asymmetries on physical and sports performance: a systematic review >

Chris Bishop et al.

Journal of Sports Sciences
Volume 36, 2018 - Issue 10

Published online: 2 Aug 2017

Article

Implementing technical refinement in high-level athletics: exploring the knowledge schemas of coaches >

Philip E. Kearney et al.

Journal of Sports Sciences
Volume 36, 2018 - Issue 10

Published online: 21 Jul 2017

Browse journals by subject

Back to top

Area Studies

Arts

Behavioral Sciences

Bioscience

Built Environment

Communication Studies

Computer Science

Development Studies

Earth Sciences

Economics, Finance, Business & Industry

Education

Engineering & Technology

Environment & Agriculture

Environment and Sustainability

Food Science & Technology

Geography

Health and Social Care

Humanities

Information Science

Language & Literature

Law

Mathematics & Statistics

Medicine, Dentistry, Nursing & Allied Health

Museum and Heritage Studies

Physical Sciences

Politics & International Relations

Social Sciences

Sports and Leisure

Tourism, Hospitality and Events

Urban Studies

Information for

Authors

Editors

Librarians

Societies

Open access

Overview

Open journals

Open Select

Cogent OA

Help and info

Help & contact

Newsroom

Commercial services

Keep up to date

Register to receive personalised research and resources by email

Sign me up

Copyright © 2018 Informa UK Limited [Privacy policy & cookies](#) [Terms & conditions](#) [Accessibility](#)

Registered in England & Wales No. 3099067
5 Howick Place | London | SW1P 1WG



Taylor & Francis Group
an Informa business

Taylor & Francis Online may be unavailable for up to 2 hours on Friday 21 June, 22:00 - 02:00 GMT, due to scheduled maintenance work.