The foot and ankle characteristics in children with idiopathic toe walking gait

Cylie Williams1,2*, Paul Tinley3, Michael Curtin4, Sharon Nielsen5

From Australasian Podiatry Council Conference 2013
Sydney, Australia. 2-5 June 2013

Background
Idiopathic toe walking (ITW) has been associated with ankle equinus, and while equinus has been linked with foot deformity in adults, there has been limited investigation on its impact on structural foot change in children. This study used the weight bearing lunge (WBL) test and Foot Posture Index-6 (FPI-6) to evaluate the foot and ankle measures of children with an ITW gait.

Methods
Sixty children between the ages of four and eight years were grouped into an ITW (N=30) and a non-toe walking (NTW) (N=30) cohort. The ankle range of movement and FPI-6 was calculated during appropriate weight-bearing test and stance.

Results
There was a highly significant difference in the WBL test measures between the ITW cohort and the NTW cohort. The FPI-6 comparison was not significant. The WBL test was also not predictive of an abnormal FPI-6 in the ITW cohort.

Conclusion
These results demonstrate that ITW gait style impacts only on the available dorsiflexion at the ankle. The WBL measure may be utilised within the clinical setting to guide and monitor treatment interventions.

Author details
1Allied Health Research Unit, Southern Health, Cheltenham, VIC, 3192, Australia. 2Department of Physiotherapy, Monash University, Frankston, VIC, 3199, Australia. 3School of Podiatry, Charles Sturt University, Albury, NSW, 2640, Australia. 4School of Occupational Therapy, Charles Sturt University, Albury, NSW, 2640, Australia. 5Quantitative Consulting Unit, Charles Sturt University, Wagga Wagga, NSW, 2678, Australia.

Published: 31 May 2013

doi:10.1186/1757-1146-6-S1-O39

Submit your next manuscript to BioMed Central and take full advantage of:

• Convenient online submission
• Thorough peer review
• No space constraints or color figure charges
• Immediate publication on acceptance
• Inclusion in PubMed, CAS, Scopus and Google Scholar
• Research which is freely available for redistribution

Submit your manuscript at www.biomedcentral.com/submit

* Correspondence: cylie.williams@southernhealth.org.au
1Allied Health Research Unit, Southern Health, Cheltenham, VIC, 3192, Australia
Full list of author information is available at the end of the article

© 2013 Williams et al; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.
BioMed Central publishes under the Creative Commons Attribution License (CCAL). Under the CCAL, authors retain copyright to the article but users are allowed to download, reprint, distribute and /or copy articles in BioMed Central journals, as long as the original work is properly cited.