

Publication

Directional effects of biofeedback on trunk sway during stance tasks in healthy young adults

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 1195662**Author(s)** Huffman, Jennifer L; Norton, Loretta E; Adkin, Allan L; Allum, John H J**Author(s) at UniBasel** [Allum, John H.J.](#) ;**Year** 2010**Title** Directional effects of biofeedback on trunk sway during stance tasks in healthy young adults**Journal** Gait & posture**Volume** 32**Number** 1**Pages / Article-Number** 62-6**Keywords** Balance control, Trunk sway, Biofeedback, Vibrotactile

Biofeedback has been shown to improve balance in a number of different populations. As certain clinical populations have a tendency to fall in one direction, the provision of biofeedback in the impaired direction may improve balance in that direction but not in others. The purpose of this study was to determine the effects of uni-directional biofeedback on stance tasks in healthy young adults. Trunk sway was measured in 40 healthy young adults as they performed nine stance tasks with and without biofeedback. Participants received biofeedback about their trunk sway in either the anterior-posterior (AP) or medial-lateral (ML) direction using a multi-modal head-mounted biofeedback device. An overall effect of reduced sway angle and increased sway angular velocity was noted with biofeedback. Some of the effects of biofeedback were dependent on the direction in which biofeedback was given and whether vision was present during the stance task. These effects were strongest in the pitch direction for AP biofeedback with vision present. This study showed direction specific effects of biofeedback are greatest in the sagittal plane. These results are important clinically as the use of biofeedback during stance tasks, similar to gait tasks, appears to work best in the AP direction when vision is present.

Publisher Elsevier**ISSN/ISBN** 0966-6362**edoc-URL** <http://edoc.unibas.ch/dok/A6005843>**Full Text on edoc** No;**Digital Object Identifier DOI** 10.1016/j.gaitpost.2010.03.009**PubMed ID** <http://www.ncbi.nlm.nih.gov/pubmed/20439161>**ISI-Number** WOS:000279581000012**Document type (ISI)** Article