



[www.BANDHAYOGA.COM](http://www.BANDHAYOGA.COM)

*Musculoskeletal*

**Effect of increased pushoff during gait on hip joint**

# forces

## Can increased push-off during gait reduce hip joint forces?

Author : Lewis Ingram

It has been suggested that high anteriorly directed forces from the femur on the acetabulum may predispose to anterior acetabular labral tears and anterior hip pain. While producing greater push-off reduces sagittal plane hip moments, it is unclear whether this gait modification also decreases hip joint forces. The aim of the following study was to investigate the result of increasing push-off on forces at the hip joint.

Nine healthy subjects walked on an instrumented force treadmill under two conditions, with instructions to 'walk as per normal,' and to 'push more with your foot when you walk.' The results of the latter instruction highlighted a reduction in maximum hip flexion and extension moment. A net reduction of 2.3% in hip joint forces was also observed when subjects were asked to 'push-off.'



The observed decrease in anterior hip joint force suggests that this gait modification would be beneficial for people with anterior hip pain and/or an acetabular labral tear.

> From: Lewis et al., *J Biomech* (2014-12-10 07:28:37) (Epub ahead of print). All rights reserved to Elsevier B.V. .  
[Click here for the online summary.](#)



Sign up on our website and get access to the latest evidence based articles reviewed and explained by our experts.

Visit [www.anatomy-physiotherapy.com](http://www.anatomy-physiotherapy.com)

Anatomy & Physiotherapy works with international renown experts and writers to provide a current and evidence-based content service to students, physiotherapist, musculoskeletal health professionals and educational institutes around the world in 5 key thematic areas and 7 different languages.

The best summaries to help you to improve your care. Easy and accessible.



Musculoskeletal



Aging & Chronic  
Diseases



Women's Health



Lifestyle &  
Prevention



Psychosomatic