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Authors: Yasar TATAR, Nejla GERCEK, Nusret RAMAZANOGLU, Irfan GULMEZ, Selda UZUN, Goktug SANLI, Cengiz KARAGOZOGLU, Hasan Birol COTUK

PII: S0966-6362(18)30701-X
DOI: https://doi.org/10.1016/j.gaitpost.2018.06.008
Reference: GAIPOS 6125

To appear in: *Gait & Posture*

Received date: 21-2-2018
Revised date: 6-6-2018
Accepted date: 8-6-2018

Please cite this article as: TATAR Y, GERCEK N, RAMAZANOGLU N, GULMEZ I, UZUN S, SANLI G, KARAGOZOGLU C, COTUK HB, Load distribution on the foot and Lofstrand Crutches of amputee football players, *Gait and Posture* (2018), https://doi.org/10.1016/j.gaitpost.2018.06.008

Load distribution on the foot and Lofstrand Crutches of amputee football players

Yasar TATAR[1,2], Nejla GERCEK[2], Nusret RAMAZANOGLU[2], Irfan GULMEZ[2], Selda UZUN[2], Goktug SANLI[2], Cengiz KARAGOZOGLU[2], Hasan Birol COTUK[2]

1 Marmara University, School of Medicine, Physical Medicine and Rehabilitation Department, Istanbul, Turkey
2 Marmara University, Faculty of Sports Sciences, Istanbul, Turkey

ytatar@marmara.edu.tr , nejla.gercek@marmara.edu.tr , nramazanoglu@marmara.edu.tr , irfan.gulmez@marmara.edu.tr , seldauzun@marmara.edu.tr , goktug.sanli@marmara.edu.tr, cengizk@marmara.edu.tr , hbcotuk@marmara.edu.tr

Research Highlights

- Load distribution changes during walking, running and kicking
- Upper extremity exposed to unaccommodated loadings during amputee football
- Loadings on upper extremity increased extremely during kicking
- Running pattern was different than walking in amputee football
- Exposed loadings especially on the upper extremity may increase injury risk

Abstract

Background: Amputee football is a worldwide popular sport with positive physical and psychological effects on the disabled. Amputee players use their hands dominantly for locomotion. However, the effect of using upper extremity which is not accommodated to loading is not very well known.

Research question: The objective of this study was to determine the load distribution of amputee football players during walking, running and kicking the ball.

Methods: This study was conducted with 15 certified amputee football players (age 24.5±5.8 years, body weight 62.3±10.9 kg, height 171.6±7.7 cm). The loads on their non-amputated lower extremity were measured with F-Scan mobile system sensors inserted in their shoes, and the loads on their upper extremities were measured with F-Grip system sensors affixed to the gloves. The participants were asked to walk, run and kick the ball using