



AB140. 92. Postoperative changes in gait pattern following 1st metatarsophalangeal joint fusion

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Background: To evaluate the changes in kinetic and temporospatial gait parameters following 1st metatarsophalangeal joint (MTPJ) arthrodesis in a population with severe hallux valgus deformity. A novel, fully integrated and wireless sensor insole (OpenGo, Moticon, München, Germany) was used for gait analysis. Hallux valgus is one of the most common foot pathologies resulting in changes of the plantar pressure distribution and gait patterns. In severe deformities this changes could lead to significant pain, disability and imbalance. This study is one of the first to analyse this population using specialised gait and motion detecting insoles.

Methods: Eighteen patients with severe hallux valgus

deformity undergoing first MTPJ arthrodesis were recruited. OpenGo sensor insoles were used to evaluate the gait pattern. Three measurements over the course of 10 metres were taken and a gait report was generated. Pre and postoperative measurements were recorded. These results were analysed and compared to a control group of healthy volunteers with no foot pathology. Postoperative measurements were taken at 3 months post operatively and patients completed a foot and ankle outcome score (FAOS) questionnaire.

Results: There is a marked improvement in the loading of the first ray and midfoot throughout the gait cycle following the first MTPJ fusion in all study participants.

Conclusions: The 1st MTPJ arthrodesis is conducive to an improvement in gait and plantar pressure distribution in mid- and fore-foot loading in a population with severe hallux valgus deformity, returning the gait to a more physiologically correct pattern.

Keywords: Metatarsophalangeal joint arthrodesis (MTPJ arthrodesis); bunion; gait analysis; Hallux Valgus; metatarsophalangeal joint arthritis (MTPJ arthritis)

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