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Paper Title: Impact of Insole Materials on Plantar Pressure Distribution in Asymptomatic Feet During Balanced Standing

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## Abstract

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Repetitive and prolonged abnormal peak plantar pressure is the causative factor leading to foot complications especially in people with prolonged standing activities. The insoles are prescribed to reduce and redistribute abnormal peak plantar pressure during different activities. This study aimed to investigate the impact of materials on plantar pressure distribution during balanced standing in asymptomatic foot. There were two types of flat insoles, Poron® and para rubber selected to evaluate for effectiveness in reducing plantar pressure. Plantar pressure data were collected using F-Scan in-shoe sensors during barefoot balanced standing and standing on two types of insoles. The results revealed reduction in peak and mean plantar pressure with both insole materials compared to barefoot. Poron® demonstrated a higher reduction in plantar pressure compared to para rubber, indicating its superior pressure distribution properties. Para rubber, as a potential cost effective with similar trend of reduction of plantar pressure and locally available material, could be considered as an alternative to commercial insole materials.

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