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The Effect of Low Heel Raise to Forefoot Plantar Pressure in Diabetic Patients with Tight Tendon Achilles

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Introduction: The purposes of this study were to investigate the effects of raising the heel to the forefoot plantar pressure (PP) in diabetic patients with or without limited ankle dorsiflexion due to tight tendon Achilles (TA). **Materials and methods:** Plantar pressure recordings and gait tests were performed in the two groups of subjects with diabetes (tight TA, n=17; normal TA, n=13) with the heel raised from 1 cm to 3 cm. **Results:** There were no significant forefoot pressure difference between both intervention groups ($p < 0.05$). Plantar pressure reduction was seen in the medial (10-30%) and lateral metatarsal heads (20-50%) as well as the heel (2-38%) when heel raise was increased from 1 to 3 cm. However, reciprocal pressure increase was seen at hallux (11-76%), toes (1-200%) and midfoot (22-100%) with increased heel height. **Conclusion:** Heel elevation up to 2 cm is recommended for footwear prescription for to diabetic patients. A higher heel raise may may cause plantar pressure elevation to the hallux which is one of the high risk regions for plantar ulceration in diabetics.