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## Gait changes in persons with diabetes: Early risk marker for diabetic foot ulcer

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### Abstract

**Background** Increasing prevalence of diabetic foot ulcer (DFU) and subsequent foot amputation in persons with type 2 diabetic neuropathy is a well known fact. The present study was aimed to identify the initial risk marker for DFU. **Methods** Dynamic plantar pressure analysis was done for persons with type 2 diabetes mellitus (T2DM) without neuropathy (D), patients with diabetic neuropathy (DN) with normal foot profile and healthy persons with normal foot profile (C). **Results** The data showed a significant difference in dynamic peak plantar pressure between C and DN ( $P = 0.035$ ) and no significant difference between D and DN ( $P = 0.997$ ). The dynamic segmental peak plantar pressure results showed significant difference only in the medial heel region ( $P = 0.009$ ) among the three groups. **Conclusions** Gait variations and restrictions in subtalar and first metatarsophalangeal joint are found in persons with diabetic neuropathy even before the onset of foot deformity.

**Keywords:** Diabetic foot ulcer; Diabetic neuropathy; Foot deformity; Gait; Plantar pressure analysis.

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