

Prevention of Foot Ulceration in Diabetes Patients using Foot Plantar Pressure Mapping Insole System: A Short Review

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Abstract. A major global health concern, diabetes mellitus affects 415 million adults globally. Diabetic foot ulceration (DFU) is one of the most life-threatening complications of the condition and can result in amputation. Applying excessive pressure to specific areas of the foot is among the main causes of foot ulcers. Using an In-sole plantar pressure mapping system embedded into a shoe, people with diabetes can identify high-pressure points earlier and can take relevant medical actions before it gets too serious. A plantar pressure mapping insole system has the potential to be extremely important for the diagnosis, care, and behaviour change of diabetic patients. Analysis of this research review shows the lack of portable methods to measure plantar pressure dispersion. To full fill the gap in this research area, the research aim is to develop a plantar pressure mapping insole system that can detect high plantar pressure points. This paper reviews the aids, methodology, applications, and justification for an in-shoe plantar pressure mapping insole system. The results of this study indicate that different foot plantar pressure mapping sensors can be used to develop the planter pressure mapping insole system. In addition, this study also found the preference of diabetes patients when it comes to the usability and efficiency of the insole system.

Keywords: *Plantar Pressure Mapping Insole, Diabetes, Foot Ulceration*