

# Amputations among people with diabetes can be reduced by 50%, study finds

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Every 30 seconds somebody in the world is amputated as a consequence of foot complication due to diabetes. A new study at Sahlgrenska Academy, University of Gothenburg, Sweden, confirms that shoe inserts, podiatry, regular checkups and other simple interventions can reduce the number of amputations by more than 50%.

Orthotic researchers at Sahlgrenska Academy, University of Gothenburg, have studied diabetic foot complications ever since 2008. They have focused on protecting the foot from overloading the foot sole in order to minimize the risk of ulcers, which may eventually lead to [amputation](#).

The researchers have now completed a study of 114 Swedish patients with [diabetes](#) at risk of developing such ulcers. The results show that shoe inserts, podiatry, information and regular checkups can prevent ulcers, which would reduce the number of amputations by more than 50 per cent.

The participants in the study – to be presented at the International Conference on Prosthetics and Orthotics in Hyderabad, India this February – have an averaged 58 years of age and 12 years since their initial diagnosis of diabetes. The participant wore one of three different types of shoe inserts over a period of two years.

Only 0.9% of the participants developed new [foot ulcers](#) during the first year, as opposed to the figure of 3–8% that has been reported for similar diabetic populations.

"We found that good shoes and inserts can reduce pressure on the foot by 50% compared with going barefoot," [doctoral student](#) Ulla Tang says. "Our conclusion at the end of one year is that all three types of inserts effectively distribute pressure under the sole in order to minimize the risk of ulcers."

The study also revealed that only 67% of [diabetes patients](#) had been offered podiatry despite the fact that 83% had calluses.

"An insert costs anywhere from SEK 850 to SEK 1,450," Ms. Tang says. "Healing a diabetic foot ulcer averages SEK 70,000, while an amputation demands up to SEK 1 million in social and healthcare resources. Ulcer prevention is not only a way of relieving suffering but a sound financial investment."

The researchers attending the conference in India are also planning to introduce a new digital tool that they have developed in collaboration with the Västra Götaland region. With the digital tool assessment of the risk for [foot](#) ulcer will be easier and reliable. The idea is that orthotist will use the instrument as a basis for the prescription of suitable shoes and insoles.

Provided by University of Gothenburg

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