

# Medical PEMF Studies



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## DIABETES

**Pulsed electromagnetic field therapy promotes healing and microcirculation of chronic diabetic foot ulcers: a pilot study.**



1. Adv Skin Wound Care. 2015 May;28(5):212-9. doi: 10.1097/01.ASW.0000462012.58911.53.

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**OBJECTIVE:** To examine the effects of pulsed electromagnetic field (PEMF) therapy on promoting the healing and microcirculation of chronic diabetic foot ulcers.

**DESIGN:** A randomized, double-blind, placebo-controlled clinical trial on a homogenous subset of chronic diabetic foot ulcers.

**SETTING:** Hospital and university.

**PATIENTS:** Thirteen subjects (7 in the PEMF group and 6 in the control group) diagnosed with type 2 diabetes and had unsatisfactory healing of ulcer(s) in the preceding 4 weeks were recruited.

**INTERVENTIONS:** Subjects were randomly allocated to receive either active PEMF therapy (duration: 60 minutes; frequency: 12 Hz; intensity: 12 Gauss) or nonactive PEMF for 14 sessions within 3 weeks.

**MAIN OUTCOME MEASURES:** Assessment on wound closure, wound depth, and microcirculation were performed at the baseline, end of the treatment period, and 1-month follow-up.

**MAIN RESULTS:** By the end of the treatment period, there was an 18% decrease in wound size in the active PEMF group as compared with a 10% decrease in the control group. The PEMF group demonstrated significant cumulative increase in cutaneous capillary blood velocity (by 28%) and 14% increase in capillary diameter. In contrast, the control group showed a decrease in both capillary blood velocity and diameter.

**CONCLUSION:** In this study, PEMF therapy seemed to accelerate wound healing and improve microcirculation.

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