30

REVIEW. ELECTROTHERAPY FOR STIMULATION OF WOUND HEALING

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Low frequency electrotherapy (ET) is applied as an intervention to stimulate healing processes. This review contains 24 controlled studies (RCT design: 19; CCT design: 5).

The studies were classified on 14 points concerning population, treatment allocation, blinding, outcome, intervention, statistical analysis and follow up. Total number of patients: 1401 (ET: 781 patients; placebo ET: 620 patients). Several forms of ET were applied with different electrode placements on wounds of different etiology (pressure sores, wounds by venous or arterial insufficiency, diabetic foot ulcers, surgical wounds).

The two outcome measures were healing rate (percentage wound surface reduction per week) and the number of totally healed wounds. Healing rate is a continuous parameter expressed in WMD (Weighted Mean Difference); healed wounds is a nominal parameter expressed in OR (Odd's Ratio).

All studies analysed together showed positive effects of ET; difference in healing rate in favour of ET is 5,47% (CI: 4,83-6,10%); OR for total wound healing was 2,42 (CI: 1,75-3,41) in favour of ET. If the analysis was repeated for studies were ET was applied in an appropriate way, a direct application with monophasic ET, the effects improved further; difference in healing rate increased to 9,74% (CI: 8,77-10,72) and chance upon total wound healing increased to 8,56 (CI: 4,25-17,22).

ET is an effective intervention to stimulate wound healing. Optimal effects are present by direct application of pulsed monophasic ET. Because ET is a time consuming intervention the place in wound healing should be clarified. Economic evaluation studies are needed.