



## Wound Healing

This study examined the effects of static magnetic fields on postoperative wounds in 21 patients undergoing plastic surgery. Magnetic patches ranging in thickness from 1 to 6 mm, and 2450 to 3950 G field strength were administered over the area of operation for a total of 48 hours. Thirteen patients received the magnets after pain or edema had appeared and 8 received them prophylactically. Results showed a decrease in pain, edema, and coloration in approximately 60 percent of patients. Such symptoms disappeared entirely in 75 percent. (1)

Results of this study indicated that treatment with pulsating electromagnetic field either alone or in combination with laser therapy exhibited healing effects with respect to peripheral nerve lesions and general wound healing relative to controls. (2)

This double-blind, placebo-controlled study examined the effects of a magnetic treatment device taped over the carpal tunnel against wrist pain sustained at work among a group of turkey plant employees. Results showed that the device was effective in alleviating such pain and that it was free of side effects. (3)

Results of this controlled study showed that low-frequency pulsed electromagnetic fields produced significant beneficial cutaneous wound healing effects in rats. (4)

This double-blind, placebo-controlled study found that treatment with non thermal pulsed radio frequency energy accelerated wound healing in spinal cord injury patients suffering from stage II and III pressure ulcers. RF treatment consisted of pulsed 27.12-MHz energy produced via a Diapulse device, with energy delivered via a treatment head placed in wound dressings, in 30-minute periods twice a day for 12 weeks or until sores healed. (5)

After a discussion of the mechanics involved in the use of pulsed electromagnetic energy in the treatment of disease, the author discusses findings from recent studies pointing to the therapy's effectiveness with respect to the treatment of acute soft-tissue lesions. (6)

Results of this placebo-controlled study indicated that low-intensity continuous microwave radiation administered over a period of 7 days was effective in treating post-operative purulent wounds associated with abdominal surgery. (7)

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2210 Encinitas Blvd, Suite G-2 Encinitas, CA 92024

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## Wound Healing (Cont.)

Results of this study showed that combined magneto/laser therapy reduced inflammation and wound suppuration, and enhanced tissue healing significantly in patients suffering from gunshot wounds relative to conventional treatment only. (8)

Noting that pulsed electromagnetic fields have been used in bone healing for more than 20 years, this review article cites recent results from both animal and human studies pointing to the efficacy of PEMF in the treatment of soft-tissue injuries as well. (9)

This double-blind study examined the effects of postoperative nonthermal pulsed high-frequency electromagnetic fields on edema formation and bruise healing in boys undergoing orchidopexy. Treatment involved exposure 3 times daily for the first 4 days following surgery. Significant effects with respect to rate of bruise resolution were reported in patients receiving the treatment relative to controls. (10)

This controlled study examined the effects of pulsed electromagnetic fields in patients suffering from chronic productive inflammation or orbital tissue. PEMF treatment consisted of 7-10 minute daily exposures over a period of 10 days. Controls received conventional treatment only. Both groups showed good improvement, but patients treated with the PEMFs recovered significantly faster than did controls. (11)

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### Citations:

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