

Journal of Burn Care & Research:

ABA Papers: PDF Only

Pulsed Electromagnetic Fields in Experimental Cutaneous Wound Healing in Rats

Patiño, Osvaldo PT, MS; Grana, Daniel MD; Bolgiani, Alberto MD; Prezzavento, Gustavo MD; Miño, Jorge PhD; Merlo, Alicia PhD; Benaim, Fortunato MD, PhD



Abstract

Electromagnetic fields are now being used in many diseases such as osseous, ligamentous, cartilaginous, or nervous reparation, diabetes, and myocardial or cerebral ischemia. Although many publications show the usefulness of magnetotherapy, discrepancies exist about the utility of electromagnetic fields in skin wound healing. The objective of this work was to study the effect of pulsed electromagnetic fields on wound healing in rats. Twenty-two male Wistar rats were used; a circular lesion was made in the back of each animal. They were divided into three groups: group C (control) with sham treatment ([left pointing guillemet]=8), group NF, treated with topical nitrofurazone solution (n=7), and group PEMF, treated with pulsed electromagnetic fields of 20 mT (n=7). The treatments were 35 minutes twice a day. The absolute and relative values of the area and perimeter of the wounds showed significantly lower values in the PEMF group at days 7, 14, and 21 compared with those in group C ($p < 0.01$, analysis of variance), whereas the PEMF group showed significantly lower values at day 21 only compared with the NF group ($p < 0.01$, analysis of variance). The results suggest a significant beneficial stimulation in the wound healing process in rats treated with PEMF, which could lead to the development of a practical tool for research and clinical use.

(C)1996The American Burn Association

You currently do not have access to this article.

You may need to:

- [Register an account](#).
- [Login](#) if you are a registered subscriber.
- [Subscribe to this Journal](#) , or
- [Purchase access to this article](#) if you are not a current subscriber.
- [View this article in Ovid](#) if your institution subscribes to this journal.

Note: If your society membership provides for full-access to this article, you may need to login on your society's web site first.