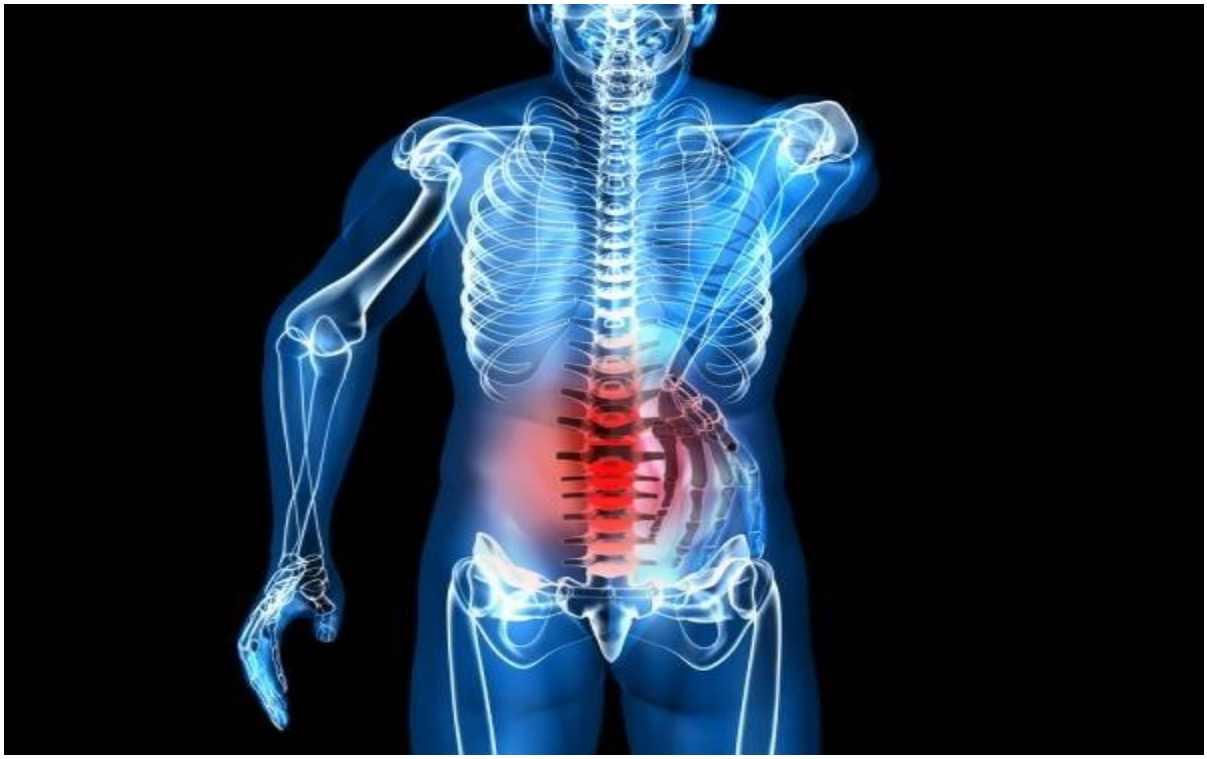
Medical PEMF Studies

NEUROPATHY

Effects of pulsed electromagnetic field and swimming exercise on rats with experimental sciatic nerve injury.



1. J Phys Ther Sci. 2014 Sep;26(9):1355-61. doi: 10.1589/jpts.26.1355. Epub 2014 Sep 17.

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[Purpose] The current study aimed to reveal the therapeutic effects of a pulsed

electromagnetic field and swimming exercises on rats with experimental sciatic nerve injury, which was induced with crush-type neuropathy model damage, using electrophysiological methods. [Subjects] In the current study, the sample consisted of 28 adult male Wistar albino rats. [Methods] The rats were randomized into four groups (n=7). Swimming exercise and PEMF (2 Hz and 0.3 MT) were applied one hour a day, five days a week, for four weeks. Electroneuromyographic (ENMG) measurements were taken on day 7. [Results] When the data were evaluated, it was found that the 4 weeks of PEMF and swimming exercises led to an increase in motor conduction rates and a decrease in latency values, but the changes were not significant in comparison with the control and injury groups. The compound muscle action potential (CMAP) values of the left leg were lower in weeks 2, 3, and 4 in the swimming exercise group in comparison with the control group, although for the PEMF group, the CMAP values of the left leg reached the level observed in the control group beginning in week 3. [Conclusion] PEMF and swimming exercise made positive contributions to nerve regeneration after week 1, and regeneration was enhanced.

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