ZUSAMMENSTELLUNG VON WISSENSCHAFTLICHEN PUBLIKATIONEN ZUR WIRKUNG VON PULSIERENDER MAGNETFELDTHERAPIE BEI SEHNEN- UND BÄNDERVERLETZUNGEN

1984: Pulsed electromagnetic field therapy of persistent rotator cuff tendonitis – a double-blind controlled assessment

Abstract

The value of pulsed electromagnetic fields (PEMF) for the treatment of persistent rotator cuff tendonitis was tested in a double-blind controlled study in 29 patients whose symptoms were refractory to steroid injection and other conventional conservative measures. The treated group (15 patients) had a significant benefit compared with the control group (14 patients) during the first 4 weeks of the study, when the control group received a placebo. In the second 4 weeks, when all patients were on active coils, no significant differences were noted between the groups. This lack of difference persisted over the third phase, when neither group received any treatment for 8 weeks. At the end of the study 19 (65%) of the 29 patients were symptom less and 5 others much improved. PEMF therapy may thus be useful in the treatment of severe and persistent rotator cuff and possibly other chronic tendon lesions.

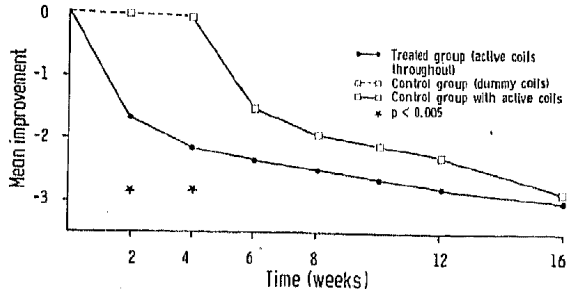

Fig 4—Improvement in pain on resisted movement versus time.

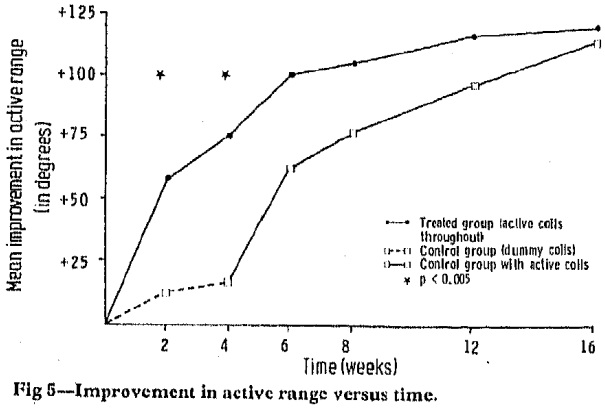

Fig 5—Improvement in active range versus time.

Quelle: Publikation im Lancet 1984

1993: Effects of electrical and electromagnetic stimulation after anterior cruciate ligament reconstruction

Abstract

A need exists to develop new methods of neuromuscular electrical stimulation (NMES) that are both effective and relatively pain-free. The purpose of this pilot study was to determine the effects of both NMES and a new method of electromagnetic (NMES/PEMF) stimulation for reducing girth loss and for reducing pain and muscle weakness of the knee extensor muscles in patients during the first 6 weeks after reconstructive surgery of the anterior cruciate ligament (ACL). Seventeen patients receiving ACL reconstructive surgery participated as a control group (N = 3), as an NMES group (N = 7), and with combined NMES and magnetic field stimulation (NMES/PEMF) (N = 7). Patients receiving NMES/PEMF rated each type of stimulation for perceived pain and were measured for their torque. Torque results revealed a mean decrease of 13.1% for NMES/PEMF patients. The mean percent of thigh girth decreased 8.3% for controls, 0.5% for NMES, and 2.3% for NMES/PEMF patients. The NMES/PEMF patients rated NMES as causing about twice the pain intensity as NMES/PEMF during treatments. As a result of this data, the authors conclude that both NMES and NMES/PEMF are effective in reducing girth loss and that NMES/PEMF is less painful than NMES alone in treating patients after ACL reconstruction.

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