

Heden, P and Pilla, A. 2008. Effects of Pulsed Electromagnetic Fields on Postoperative Pain: A Double-Blind Randomized Pilot Study in Breast Augmentation Patients. *Aesth Plast Surg* 32: 660.

Abstract

Background: Postoperative pain may be experienced after breast augmentation surgery despite advances in surgical techniques which minimize trauma. The use of pharmacologic analgesics and narcotics may have undesirable side effects that can add to patient morbidity. This study reports the use of a portable and disposable noninvasive pulsed electromagnetic field (PEMF) device in a double-blind, randomized, placebo-controlled pilot study. This study was undertaken to determine if PEMF could provide pain control after breast augmentation.

Methods: Forty-two healthy females undergoing breast augmentation for aesthetic reasons entered the study. They were separated into three cohorts, one group (n = 14) received bilateral PEMF treatment, the second group (n = 14) received bilateral sham devices, and in the third group (n = 14) one of the breasts had an active device and the other a sham device. A total of 80 breasts were available for final analysis. Postoperative pain data were obtained using a visual analog scale (VAS) and pain recordings were obtained twice daily through postoperative day (POD) 7. Postoperative analgesic medication use was also followed. Results VAS data showed that pain had decreased in the active cohort by nearly a factor of three times that for the sham cohort by POD 3 (p=0.001), and persisted at this level to POD 7. Patient use of postoperative pain medication correspondingly also decreased nearly three times faster in the active versus the sham cohorts by POD 3 (p=0.001).

Conclusion: Pulsed electromagnetic field therapy, adjunctive to standard of care, can provide pain control with a noninvasive modality and reduce morbidity due to pain medication after breast augmentation surgery