Pulsed electromagnetic fields help reduce pain, inflammation after TRAM flap breast reconstruction

Postoperative pain levels, inflammation and use of narcotics were reduced as a result of using pulsed electromagnetic field therapy after unilateral transverse rectus abdominis myocutaneous flap breast reconstruction, according to recently published findings.

As part of a double-blind, placebo-controlled study, 32 patients underwent unilateral transverse rectus abdominis myocutaneous (TRAM) flap breast reconstruction and were randomly assigned to active or sham pulsed electromagnetic field therapy.

Researchers measured pain levels using a visual analog scale (VAS), and wound exudates were analyzed for interleukin-1. Use of pain narcotics was measured by pill counts for each group. The researchers began recording narcotic use and exudate levels at 1 hour postoperatively for the next 6 hours, and thereafter at 6-hour and 12-hour intervals.

Compared with the active group, VAS pain scores were two times higher in the sham cohort at 5 hours postoperatively and four times higher at 72 hours, according to the researchers.

The rate of pain decrease in the active cohort was four times that of the sham cohort over 72 hours.

Pain scores significantly decreased from 1 hour to 3 hours postoperatively in the active group, whereas no significant change took place during the same amount of time in the sham cohort. Pain narcotics were required six times more often in the sham group between 48 hours and 72 hours.

The sham cohort was also observed to have a total wound exudate volume from the breast flap and abdominal donor site of more than two times higher than the active cohort at 6 hours to 24 hours postoperatively.

Wound exudates from patients in the sham group had interleukin-1 measurements four times higher at 6 hours postoperatively and five times higher at 24 hours compared with exudates in the active group.

The researchers noted no known side effects with the use of pulsed electromagnetic field devices. Additionally, the researchers found patients in the active pulsed electromagnetic field group were noticeably more comfortable and active than those in the sham group. - *by Abigail Sutton*

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