

Cosmetic Surgery Times®

Where the Exchange on Aesthetic Perspective Begins

July 2004

Aesthetic News

Low-level laser yields impressive preliminary liposuction results

By Nancy Ortman

STAFF CORRESPONDENT

Dallas — Studies of Erchonia low-level laser for use in liposuction are offering promising results across several parameters, according to data presented by Kevin Slattery, M.D., at the American Society for Laser Medicine and Surgery meeting. He is medical director of Erchonia Medical Laser in Mesa, Ariz., and study coordinator of the multi-center, double-blinded, randomized clinical trial of the laser for liposuction.

The device is a portable, 635-nm, dual-diode laser (not to be confused with Helium neon laser). Although the technology has been around since 1962, Dr. Slattery says Erchonia Medical Laser made history two years ago with the first U.S. Food and Drug Administration approval of low-level laser for management of musculoskeletal pain. Since then, it has been mainly used in physical therapy and sports and rehabilitation medicine for arthritis, soft tissue, and overuse injuries.

Fat extracted more easily

Dr. Rodrigo Neira advanced the 4LT (low-level laser liposuction) technique a few years ago. Neira and other researchers showed that if surgical sites were irradiated with the Erchonia laser for six minutes before liposuction, the extraction of fat was easier (Neira R et al, *Fat liquefaction: effect of low-level laser energy on adipose tissue*, *Plastic Reconstruct Surg* 2002;110:912-922). Scanning electron micrographs showed that cell membranes of adipocytes became porous, allowing the intracellular contents to move inside the cells to extracellular spaces, collapsing the cell, and making mechanical extraction through a cannula easier.

The object of the current study is to examine the effect of the laser in liposuction on pain, emulsification of fat, ease of fat extraction, and postoperative swelling and edema. With 90 percent of the data in, Dr. Slattery is pleased with the results: "We have data on these different categories that is just phenomenal. It's very exciting." He explains that a similar study two years ago yielded equivocal results

because of flaws in the study design.

The current study, says Dr. Slattery, is a double-blind reconfiguration of that preliminary study, in which a patient is either lasered or administered a sham laser. "The patients don't know if they are getting the real laser or a fake laser, and the doctors don't know if the patients have gotten a real laser or a fake laser. The nurse is the only one in the OR supplying the laser before the doctor comes in. It's truly a double-blind study."

The patients underwent liposuction for contouring of the hip, thigh, stomach, or neck. The study first looked at the laser's effects on ameliorating post-surgical discomfort. Subjects rated themselves on a Visual Analogue Scale (VAS) for pain. At the various centers, there was at least a 31 percent difference (range, 31 percent to 39 percent) between the placebo and test groups in degree of pain recorded at 24 hours, and one, two, and four weeks post-procedure. Study success was defined as a 30 percent difference between test and placebo groups, comparing the proportion of successes in each group.

For emulsification of fat (degree of liquefaction), the average VAS rating for the lasered group was approximately 12 compared with 75 for the placebo group. (The lower the VAS rating, the more liquefied the fat was.) For ease of extraction, defined as amount of time spent by the surgeon by the volume of fat removed, the VAS rating for the test group was approximately 13 versus 75 for the placebo group. "The results of this shows that for the test group, you can take out an average of about 40 ml more fat per minute. To remove 1 liter of fat, this will save a half hour or 45 minutes in surgery time," Dr. Slattery says.

The average VAS rating for degree of swelling was approximately 13 in the test group and 67 in the placebo group. Dr. Slattery says these results are statistically significant to the fourth place for emulsification of fat, ease of extraction, and swelling.

Erchonia Medical Laser is applying to the FDA for approval of each individual study parameter as an indication for use of the low-level laser in liposuction. **CST**



ERCHONIA

4751 East Indigo Street
Mesa, AZ 85205
480.981.1679
www.erschonia.com

© Reprinted from COSMETIC SURGERY TIMES, July 2004 AN ADVANSTAR PUBLICATION Printed in U.S.A.

Copyright Notice Copyright by Advanstar Communications Inc. Advanstar Communications Inc. retains all rights to this article. This article may only be viewed or printed (1) for personal use. User may not actively save any text or graphics/photos to local hard drives or duplicate this article in whole or in part, in any medium. Advanstar Communications Inc. home page is located at <http://www.advanstar.com>.