

Adipocyte Membrane Lysis Observed After Cellulite Treatment Is Performed with Radiofrequency.

Trelles M Æ , Mordon SR, *Aesth Plast Surg* (2009) 33:125–128

METHOD: Treatment was given to ten (10) patients at the highest intensity with the VelaSmooth device on

one buttock with the other serving as a control. The purpose was to check the histologic condition of

cellulite in the buttock before and 2 hours after a single treatment via a 2-mm-deep skin biopsy.

RESULTS: In the subcutaneous tissue of the treated side, adipocytes showed signs of membrane rupture.

Fat cells showed alteration in physical integrity with various forms of cell membrane rupture.

Besides

membrane lysis, adipocytes without rupture showed thickening of their membrane as a sort of stiffness,

with pronounced deletion and reduction of fat tissue mass. Comparatively, no particular changes were

noticeable in adiposites in the nontreated contralateral buttock in samples taken 2hrs after treatment of the

other buttock, which were identical to those before-treatment samples

CONCLUSION: The heating skin by non-invasive RF permits impact in the subcutaneous fat layer,

showing membrane lysis of adipocytes and/or reduction of fat tissue mass.

Improvement in arm and post-partum abdominal and flank subcutaneous fat deposits and skin

laxity using a bipolar radiofrequency, infrared, vacuum and mechanical massage device.

Brightman

L, Weiss E, Chapas AM, Karen J, Hale E, Bernstein L, Geronemus RG. *Lasers in Surgery and*

***Medicine*, Volume 41, Issue 10, pp. 791 – 798**

METHOD: This study was designed to evaluate the efficacy and safety of VelaShape on additional body

sites and more rigorously examine the technology's impact on upper arm as well as abdominal and flank

circumference. Twenty-nine (29) subjects underwent weekly treatments of the upper arms, abdomen and

flanks. Treatments were performed using VelaShape. Circumference measurements, photographs, and

subject weights were performed prior to treatment and at 1- and 3-month follow-ups. Subjects were asked

to record their treatment satisfaction level.

RESULTS: Change in arm circumference, at the 5th treatment was statistically significant with a mean loss

of 0.625 cm. At 1- and 3-month follow-ups, mean loss was 0.71 and 0.597 cm respectively.

Reduction of

abdominal circumference at 3rd treatment was statistically significant with a 1.25 cm mean loss.

At 1- and

3-month follow-ups, average loss was 1.43 and 1.82 cm respectively.

CONCLUSIONS: This study demonstrates with statistical significance, sustainable reduction in circumference and improvement in appearance of arms and abdomen following treatment with VelaShape.

Bipolar Radiofrequency, infrared heat and pulsatile suction in the non-surgical treatment of focal

lipodystrophy and cellulite. Mulholland, RS, *Australian Cosmetic Surgery*, 2004; 26: 101–3.

METHODS: Fifteen (15) study patients, all female, with an average age of 46 years were treated with the

ELOS VelaSmooth device.

RESULTS: There was a 100% response in circumferential reduction in lipodystrophic regions.

Mean

circumferential reductions of the thigh of 4.18cm, abdomen 5.73c and hips 5.86cm were achieved. The

average pre-treatment weight was 76.73kgs and the post-treatment weight was 76.64. Patient based

assessment of cellulite and skin texture improvement was 62% (range 20-80%) and blinded doctor based

evaluation of improvement was 40%.

CONCLUSION: In the absence of weight loss or dietary manipulations it was concluded that the fat

reduction contouring was a direct result of the energies delivered. It was concluded that the combination of

bi-polar radiofrequency, infrared energy and vacuum suction device can achieve predictable, safe and

clinically non-surgical reduction of focal lipodystrophic regions, smoothing of cellulitic skin and skin

firming.

Cellulite treatment using a novel combination radiofrequency, infrared light, and mechanical tissue

manipulation device: Tina S. Alster & Elizabeth L Tanzi. *Journal of Cosmetic Laser Therapy* 2005; 7:

81–5.

METHODS: Twenty (20) adult women with moderate bilateral thigh and buttock cellulite, received VelaSmooth treatments to a randomly selected side (the contralateral side serving as a non-treated control).

Patients were evaluated using standardized digital photography and circumferential leg measurements at

baseline, prior to each treatment session, and at one, three, and six months after the final treatment. Clinical

improvement scores of comparable photographs using a quartile grading scale were made independently by

two masked medical assessors after the series of treatments.

RESULTS: Ninety per cent (18/20) of patients noticed overall clinical improvement, and 17 of these 18

patients reported that they would pursue treatment of the contralateral thigh. Clinical improvement scores

averaged 1.82 (corresponding to 50% improvement) after the series of treatments.

Circumferential thigh

measurements were reduced by 0.8 cm on the treatment side.

CONCLUSION: It was concluded that Cellulite can be significantly and safely reduced with the use of a

noninvasive device that combines bipolar RF, infrared light, and mechanical massage. The effects of

treatment appear to be prolonged, but maintenance treatments may be necessary to further enhance the

clinical results achieved.

Treatment of cellulite with a bipolar radiofrequency, infrared heat, and pulsatile suction device: a

pilot study. Rungsima Wanitphakdeedecha, MD & Woraphong Manuskiatti, MD. *Journal of Cosmetic Dermatology*, 5, 284–288

METHODS: Twelve (12) subjects were treated with the RF-light-based device (VelaSmooth) and baseline

weight and circumference measurements were taken, and standardized photographs that were judged

independently by two non-treating dermatologists after the series of treatment..

RESULTS: The average body weights at baseline, immediately after the last treatment, and four weeks and one year after the complete treatment were 56.30, 56.05, 56.23, and 56.53 kg, respectively. The average circumferential reductions at the last treatment were 5.17cm from the abdomen, and 3.50cm from the thigh. These reductions were sustained 4 weeks later on the abdomen and thigh at 3.17cm and 3.50cm respectively, and one year later at 3.83cm and 3.13cm respectively. Average clinical improvement of 25% improvement in appearance of cellulite was observed.

CONCLUSION: It was concluded that a bipolar RF, IR heat and pulsatile suction device provides a beneficial effect on reduction of abdomen and thigh circumference, and smoothing of the cellulite.

A study evaluating the safety and efficacy of the VelaSmooth system in the treatment of cellulite.

Sadick N, Magro C. *Journal of Cosmetic and Laser Therapy*, 2007, 9(1):15-20

METHODS: 16 subjects with cellulite were treated with the VelaSmooth system. One thigh was treated while the other served as a control. Treatment efficacy was measured through circumferential measurements of both thighs and by having the investigator and an independent evaluator grade visual improvement during follow-up visits.

RESULTS: The results were positive, showing overall thigh circumference decreased in 71.87% of the treated legs. The mean decrease was 0.44 cm of the lower thigh and 0.53 cm of the upper thigh. There was significant visual improvement in cellulite and skin texture. Visual improvement of greater than 51% was seen in 50% of the subjects at the final follow-up visit. While all patients noted some degree of improvement following the study protocol, the improvement continued to increase in 37.5% of subjects up to 8 weeks after the last treatment

CONCLUSION: This treatment showed positive results. Future studies employing higher energy levels and additional treatments will likely augment the results of the present study.

A prospective clinical study to evaluate the efficacy and safety of cellulite treatment using the combination of optical and RF energies for subcutaneous tissue heating: Neil S. Sadick & R Stephen

Mulholland. *Journal of Cosmetic Laser Therapy* 2004; 6: 187–190

METHODS: This two-center study investigated the safety and effectiveness of combined energies for cellulite treatment using the VelaSmooth system. Thirty-five (35) female subjects with cellulite and/or skin

irregularities on the thighs and/or buttocks were treated with the VelaSmooth device. All patients maintained their normal lifestyle, and diet and fluid consumption.

RESULTS: All study patients showed some level of reduction in thigh circumference after 8 weeks of treatment; indeed, 70% of all patients showed such a reduction after 4 weeks of treatment. Also, 100% of all patients showed some level of improvement in skin texture and cellulite. The mean decrease in circumference was 0.8 inches. Some patients demonstrated reductions of more than 2 inches.

There were minimal complications associated with treatment.

CONCLUSION: This preliminary study demonstrates that the VelaSmooth system can have a beneficial effect on cellulite appearance.

ELOS Technology for Cellulite and Fat treatment: Combination of Conducted RF, Infrared and

Vacuum. Shaoul, J. *Australian Cosmetic Surgery Magazine*, 32-3

METHODS: Fifteen (15) female patients enrolled in this clinical study with a variety of body fat and

cellulite conditions. Documentation of treatment results included before and after pictures with blinded

evaluation, as well as circumference measurements of the hips and thighs before the first treatment and

after the eighth.

RESULTS: Initial tissue reaction when treating with the Vela Smooth is an increase in local blood supply

to the adipose tissue. All patients demonstrated improvement in cellulite appearance as well as reduction in

the hip circumference. Average improvement for all patients on the appearance of cellulite was 65 per cent.

Hip perimeters were reduced 3.2cm on average, and all patients reported feeling skin contraction as a result

of the treatment. No complications were noted and there was no discomfort during and after the treatment.

Indeed most of the patients enjoyed the treatments.

CONCLUSION: This preliminary study demonstrates promising results. An unequivocal smoothing of

the skin surface was observed.

Evaluation of the combination of radio frequency, infrared energy and mechanical rollers with

suction to improve skin surface irregularities (cellulite) in a limited treatment area. Kulick, M.

***Journal of Cosmetic and Laser Therapy*. 2006; 8: 185–190**

METHOD: This IRB-approved (Institutional Review Board) study evaluated the efficacy of ELOS technology to reduce skin surface irregularities in a limited treatment zone. Sixteen (16) patients were

enrolled and received treatments. Evaluations consisted of a patient questionnaire and photographic

assessment of skin contour by three physicians at 3 and 6 months after the last session who were blind to

the treatment each patient received.

RESULTS: Physician evaluators determined that all patients were improved at both post-treatment periods.

The average improvement at 3 and 6 months was 62% and 50%, respectively. All patients felt they were

improved. The patient assessment of improvement was an average of 75% at 3 months and 50% at 6

months. There was no significant change in the patients' weight at the two evaluation periods.

CONCLUSION: This technology provided consistent improvement in all patients that lasted 6 months after

their last treatment. Device settings and treatment technique may play a role in the results.

Post-pregnancy body contouring using a combined radiofrequency, infrared light and tissue

manipulation device. Winter ML - *J Cosmet Laser Therapy*, 2009; 11(4): 229-35.

METHOD: To evaluate the performance of a high-power RF device (VelaShape) for reshaping and

improvement of skin texture/laxity in postpartum women. METHODS: Twenty women received five weekly treatments to the abdomen, buttocks and thighs with the VelaShape system. Each patient's weight and nutritional habits were followed. Outcome was assessed using reproducible circumference measurements, digital photography, the physician's scores of cellulite and improvement as well as patient satisfaction. Safety was evaluated by recording subjects' comfort and tolerance. RESULTS: The overall mean circumferences reduction was 5.4 +/- 0.7 cm ($p < 0.001$). Significant ($p < 0.02$) improvement in skin laxity and tightening was noted by both the physician and patients. Treatments were well tolerated with no major safety concerns (one purpura, one mild burn). CONCLUSIONS: The evaluated system enabled significant results. Data suggest that postpartum reshaping via circumferential reduction and skin laxity improvement can be effectively and safely achieved using a high-energy combination of radiofrequency, infrared and mechanical manipulation