

Endermologie (LPG): Does It Work?

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Mr. Louis Paul Guitay, a French engineer and founder of LPG, was receiving extensive manual physiotherapy for the purpose of softening scars resulting from a car accident. In order to make the treatments more effective, shorter in duration, and more standardized, in the early 1970s he created a mechanical device that would assist the therapist. A computer-driven handle and massaging head, applied to the area to be treated, delivers intermittent suction and simultaneous rolling of the subjacent soft tissues. Initially used primarily for burn patients to soften post-burn contracture, an unexpected additional benefit was soon noted—the improvement in the appearance of cellulite. Subsequently the use of Endermologie for aesthetic purposes spread rapidly with more than 4000 machines sold in France alone. The therapists are specially trained in the use of LPG and accordingly certified.

The device first became available in the United States in January 1996. It has since been acquired by over 300 Board Certified plastic surgeons. Opinions as to its efficacy in the plastic surgical community vary widely, from those who condemn it openly without having any experience with it, to enthusiastic believers. Considering that no other solution to date exists, any treatment for cellulite would indeed represent a breakthrough. The choice, in my opinion, is between blind scepticism and an open-minded but critical scientific evaluation. With the latter in mind, a standardized multicenter study to look at the potential benefits of Endermologie (not in combination with Lipoplasty) is being designed and is soon to be implemented by the Lipoplasty Society of North America.

My personal interest in Endermologie centers around the concept of combining LPG treatments with Lipoplasty, with the dual aim of accelerating recovery and lessening post-surgical surface irregularities.

A Few Thoughts on the Rationale of This Approach

Currently, autologous fat transfer in combination with additional suction of subcutaneous fat surrounding the depressions is the only method that results in some success in treating post Lipoplasty surface irregularities. In the course of Lipoplasty not all dislodged subcutaneous fat is aspirated and some of it survives as does an au-

tologous fat graft. Endermologie applied intraoperatively with primary liposuction may assist with the even distribution of this residual fat.

Some surgeons, especially in the early days of Ultrasound Assisted Lipoplasty, instead of suctioning the emulsified fat, used extensive manual rolling of the skin and of the subcutaneous tissues. The smooth skin surfaces resulting from this approach were attributed by these surgeons to the application of ultrasound. What role has the intraoperative massage played in the quality of the results obtained?

Finally during traditional liposuction many experienced surgeons routinely “manually massage away” palpable intraoperative surface irregularities.

As far as accelerating the recovery after Lipoplasty, the use of Endermologie could theoretically assist with mobilizing the interstitial edema fluid into the capillary circulation.

With these theoretical advantages in mind, I have used the LPG intraoperatively (just after liposuction) on more than 20 patients over the last two months. An impressive reduction of postoperative edema and ecchymosis as early as two to three days after surgery was noted and documented with standardized photography.

In an attempt to visualize the different effects of LPG, we are in the process of endoscopically inspecting the subcutaneous tissues in patients before lipoplasty, and immediately following liposuction as well as before, during, and after the application of Endermologie.

During these preliminary studies, the vertical migration of intact and fragmented adipocytes, stroma, cellular debris, and of interstitial fluid toward the undersurface of the skin has readily been observed. Acceleration of blood flow at the subdermal level was also noted. These effects of intraoperative Endermologie may well serve as an explanation for the clinical findings of smoother postoperative skin surfaces, and of shortened post-operative courses.

This brief editorial reflects my preliminary observations about the potential benefits of Endermologie: The passage of time will define its possible role in our specialty.