

Laser Liposuction

“The classic liposuction method must be reassessed”

Laser liposuction facilitates the rapid dissolution of adipose tissue over large areas. At the same time, the relatively gentle temperatures help to tighten the skin.

Dr. Dirk Gröne discussed the latest advances in this field with **Dr. Michael Radenhausen**.



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Gröne: Michael, in the 2/2015 issue of *Aesthetic Dermatology & Cosmetology*, I interviewed our colleague Dr. Steinert about several subjects, including milestones in liposuction surgery, the surgical possibilities, and the limits of cosmetic procedures. In my opinion, laser liposuction deserves a closer look, because it is as effective as a surgical procedure but also as gentle as a cosmetic one.

Radenhausen: This specific laser liposuction treatment has been on the market for more than 5 years, and in the last 2 years has established itself as a minimally-invasive method. Previously, only a tiny percentage of liposuction clinics had a laser at their disposal for fat-melting purposes. Klaus Hoffmann and I have perfected our learning curve with lasers over the past 10 years. My clinic has been carrying out almost all liposuction procedures in combination with lasers for 4 years, so I know the technique very well.

Gröne: Plastic surgeons and dermatologic surgeons are known for their affinity toward trends and new procedures. What factors might make doctors hesitate to adopt laser liposuction?

Radenhausen: There are no relevant surveys, but I think that, on top of the additional consumption costs for the fibers, the high purchase price of approx. €100,000 has led to careful examination of whether the advantages of using laser-assisted surgery also include financial benefits. There was certainly

some concern that lasers could easily lead to severe burns and necrosis in the tissue, but in fact this almost never happens when applied correctly, under the tumescent technique.

Gröne: Alma Lasers recently launched a new compact device. What can we expect from it?

Radenhausen: The LipoLife device is a low-maintenance diode laser with the “correct wavelength” of 1,470nm. It has very high absorption in water and fat cells, similar to 1,440nm devices from other manufacturers. In my opinion, these wavelengths are the new “gold standard”, because they enable the rapid dissolution of large areas of adipose tissue, while also realizing the potential of thermally-induced tightening at relatively gentle temperatures.

What is also particularly exciting is that we now have specific laser fibers, such as a 400-600µm laser fiber with a 360° laser radiation probe, which is inserted in a large-bore suction cannula. As a result, almost every area can be primarily lasered and, for the first time, gently suctioned simultaneously. Also of note are the radial fibers, which have 45° radial emission and can thus be controlled in all dimensions through the subcutaneous tissue.

Gröne: This procedure significantly facilitates laser-assisted liposuction and of course saves time. Because with other lasers you had to do it the classic way, or with the help of a vibrating cannula.



Preparing for and performing laser-assisted liposuction: laser liposuction using special liposuction cannulas with integrated laser fibers.

Radenhausen: Of course, they always go together. The starting point is the tumescent technique (TLA). Today, you can achieve a suction volume of 3 liters per hour. This is still not as much as with water jet liposuction, in which less TLA is used, but it takes place under anesthesia. The classic liposuction methods with and without vibration cannulas have not become any less important, but they need to be reassessed.

Gröne: The laser has the advantage of not only removing fat, but also gently tightening tissues and, in the weeks after the procedure, generating a continuous improvement in the skin's appearance, and even in cellulite.

Radenhausen: And this is carried out with downtime of just a few days, which our patients are always enthusiastic about. It is really remarkable that not only the visible improvement of the silhouette but also the tightening of the skin is significantly faster, even if the natural tightening potential is limited.

Gröne: Which indications for liposuction are typical indications for laser procedures, and in which cases would you prefer to continue using mechanical suction cannulas?

Radenhausen: As I mentioned previously, I work extensively in combination with the laser, but currently surgeons are still relying on their existing instruments. I think quite rightly. You should always continue using a method that you can perform particularly well and safely. Nevertheless, you also have to keep moving forward. Young patients with small problem areas can still have classic liposuction without worrying about a lack of tightening. Fine suction cannulas are also better for six-pack surgery. In the case of extensive liposuction on the abdomen, thighs, chest or "saddle bag" areas, I prefer liposuction using the vibration technique. However, I always keep the option of using the laser open in case it will improve the liposuction or better exploit the tightening potential. And that brings us to an interesting point. I have had very good experiences with laser liposuction on the neck (chalis and fatty neck), chest (pseudogynocomastia), back (fir tree), upper arms (sagging), and inner thighs – everywhere we also need considerable tissue tightening in order to achieve a good aesthetic result. Cellulite can also be significantly improved. Difficult revision

procedures following liposuction (rolls) or lipoplasty (muffin-top after abdominoplasty) are also a new domain for lasers.

Gröne: What is the situation with medical conditions like lipomas, lipoedema, Madelung's disease, or lipodystrophy?

Radenhausen: I am not entirely sure whether these patients can be treated effectively with other methods, but dissolution of large lipomas can of course be performed with the laser, albeit in the form of aggressive downgrading. This is often similar to injection liposuction – see various articles by my colleague Dr. Bechara. Small fibrotic nodules remain, which then need to be extirpated by Wooping; therefore, unlike the primary surgical procedure, a second intervention is required. Promising results can also be obtained in cases of lipoedema (Lipohyperplasia dolorosa) and even lipolymphedema, with the end results being markedly delayed. Lipodystrophies and benign symmetrical lipomatoses are good indications for a combined procedure comprising reduction surgery, established liposuction techniques, and the new laser liposuction.

Gröne: The 1,470nm laser is a versatile tool, and some think that it can also be used to treat axillary hyperhidrosis, in addition to its phlebological indications (EVLT). What is your experience with this?

Radenhausen: Treatment of excessive sweating with the laser is, from my point of view, an ideal indication for the operating dermatologist. While every surgical operation in the armpit must be carried out with great care, laser liposuction with thin 2mm radial (Angel Radial Emission Fiber) probes is an excellent, safe solution in line with the trend towards minimally-invasive procedures. It treats the subcutaneous sweat glands very effectively. Laser curettage of both armpits can certainly be carried out within an hour. Hematomas and postoperative fibrosis reactions require good aftercare and compression for a few days, which is significantly less than classic suction curettage.