

Liposuction – a surgical procedure in dermatology

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Summary

Liposuction is an integral part of the wide range of surgical procedures in dermatology. Dermatologists established tumescent local anesthesia in combination with the use of micro-cannulas; especially dermatologists from Germany and Austria actively designed and developed these new techniques. In this position paper, we discuss the history, various interdisciplinary aspects, the significance, and the treatment indications for this procedure as well as its role within dermatologic training programs and research. For quality reasons, members of the Germany Society of Dermatologic Surgery and the Austrian Society of Dermatologic Surgery discuss several fundamental professional aspects as well as the historical development of liposuction.

Introduction

Liposuction is an integral and well-developed part of dermatologic surgery. Dermatologists developed the tumescent liposuction technique with micro-cannulas measuring less than 4 mm. This technique is now the method of choice and for years has been one of the most frequently performed surgical procedures worldwide. Dermatologists from Germany and Austria were especially closely involved in these developments. Today liposuction is offered at numerous dermatology clinics in private dermatology practices in both countries. With a view to quality assurance, this joint position paper by the

German Society of Surgical Dermatology (DGDC) and the Austrian Society of Surgical Dermatology (ÖGDC) discusses key aspects of liposuction surgery and its historical development.

History of liposuction in dermatology [1–2]

The modern history of liposuction began in the mid-1970s with papers by Giorgio and Arpad Fischer. A milestone in the development of liposuction was set by Yves-Gerard Illouz from Paris. His notion of a “wet technique” gave the impetus for the development of tumescent liposuction by the American phar-

macologist and dermatologist Jeffrey Klein [3–5].

The introduction of the tumescent technique enabled even more extensive liposuction procedures to be performed on an outpatient basis. Those dermatologists who were among the first to use this new surgical and anesthetic technique became driving forces in the further development of liposuction (citation from [2]) [6–9].

The extremely low risk profile of the technique was confirmed in a 1994 study by the dermatologist C. William Hanke which included 15,336 patients who were treated with liposuction by

dermatologists [10]. A more recent study by Roland Boeni with 4,380 patients, further confirmed the safety of the technique [11].

From the beginning, dermatologists were involved in establishing liposuction. The American Society of Liposuction Surgery was founded in 1983. The 50 founding members included plastic surgeons as well as ENT specialists and 10 dermatologists [12].

Gerhard Sattler was one of the first German dermatologists to offer tumescent liposuction, beginning in 1989 at the Department of Dermatology at Darmstadt Hospital [13–15]. The first liposuction procedures in Austria were performed in 1985 at the Department of Dermatology at Vienna University, by Sanja Schuller-Petrovic, and were used as aesthetic as well as curative measures.

Even today, dermatologists continue to work intensely on further development and optimization the method, as demonstrated by the recently published study by Augustin and colleagues [16] on the effectiveness of lidocaine and prilocaine in tumescent anesthetic techniques.

Liposuction was presented to a growing range of German and Austrian physicians from various areas of medicine in courses and at scientific and medical congresses. These include the annual meeting of the German Society of Dermatology (DDG), the Austrian Society of Dermatology (ÖGD), the DGDC, ÖGDC, and since 1992, at the international Darmstadt live symposia for dermatologic surgery. Due to the international exchange at these and numerous other events, liposuction has achieved a high and internationally recognized standard.

Interdisciplinary aspects

Exchange is not restricted to the field of dermatology, but rather includes other areas such as plastic surgery. Representatives of these and other areas, which also involve surgical procedures on cutaneous fat, are routinely invited as presenters and participants, for instance at the Darmstadt live symposia.

Indications

Currently, liposuction is primarily performed as an aesthetic procedure. Cosmetic indications include body contouring (saddle bags, double chin, abdomen, etc.) and correction of scars. Liposuction may be performed as a separate proce-

dure or in combination with liposhifting, subcision, or augmentation [17].

Processing methods for the aspirated fatty tissue with immediate use in tissue augmentation were developed by dermatologists and have been the subject of scientific studies [18–19].

Dermatologists have been closely involved in expanding the surgical spectrum of liposuction to include non-cosmetic indications. Medical indications include lipedema [20–22], benign symmetrical lipomatosis [23], large lipomas, lipodystrophy in HIV patients (being treated with HAART), and Madelung disease. The use of liposuction in these diseases has been scientifically studied and evaluated by dermatologists. For instance, the effectiveness of liposuction in patients with lipedema has been confirmed by studies [21] and has been followed in longitudinal investigations [24]. A paper by Schmeller and colleagues [24] has presented the largest follow-up study at this point in time. No other field has comparable data over such an extended period of time for this disease.

In addition, guidelines have now been published by dermatologists on lipedema [25].

Liposuction as part of continuing education in dermatology

Dermatologic surgery is an established part of medical training in dermatology. Courses include reconstructive procedures for the skin and cutaneous fatty tissue as well as body contouring methods. Liposuction is included among the latter and thus is part of the general curriculum for continuing education in dermatology.

It should be emphasized that, as with any other dermatologic surgery technique, liposuction is not limited to the manual performance of the procedure but also involves knowledge of anatomy, indications, differential diagnoses, and alternative procedures. Dermatologists are not the only qualified physicians, but in general are particularly well-trained and qualified in this field. This also applies to the management of potential complications (e.g., erysipelas, phlegmon) as well as correct diagnosis, which is only taught in dermatology.

Liposuction is an established part of dermatology congresses where it is presented in the form of workshops, courses, live surgical procedures, and

lectures. Physicians can also attend liposuction procedures in detail at specialized centers (hospitals and private practices). Liposuction is routinely performed at hospital dermatology units (teaching and university hospitals) in Germany and Austria, not only for cosmetic indications, but also for medical reasons (see above).

Quality assurance for liposuction by dermatologists

Many dermatological clinics and private practices in Germany and Austria are certified. All surgical procedures, including liposuction, are thus subject to quality control. One part of quality control is the documentation and reporting of complications. A study on the analysis of these data has already been initiated.

Liposuction in dermatology textbooks and literature

The first comprehensive German textbook on liposuction was published in 2003 by the dermatologists Sattler, Sommer, and Hanke [2]. In three standard textbooks on dermatologic surgery, an entire chapter has been devoted to liposuction [26–29]. Dermatologists have established a curriculum on aesthetic and plastic surgery procedures in dermatology, which also includes a substantial amount of information on liposuction [30]. International dermatologic surgery textbooks also contain exhaustive chapters on liposuction [31, 32]. Most of the scientific literature comes from dermatologists.

Evidence-based medicine, which is based on current clinical study results, has the aim of conscious and considered use of the best possible information for making treatment decisions for individual patients. Dermatologists thus seem to be predestined for assessing the indications for liposuction and for its careful use.

Summary

As skin disease specialists, dermatologists are also specialized in the prevention of dermatological diseases and in various aspects of maintaining healthy skin throughout the ageing process. This also includes aesthetic issues. Liposuction is not the exclusive domain of dermatology, but rather dermatology is actively involved in promoting interdisciplinary exchange on the topic. Modern tumescent

liposuction techniques were largely developed by dermatologists. By virtue of dermatology training as well as continuing education and training programs, dermatologists are especially qualified to perform liposuction.

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Conflict of interest

None.

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