

Suction Lipectomy
— & —
Body Sculpturing



BAHMAN TEIMOURIAN

Suction Lipectomy — & — *Body Sculpturing*

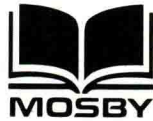
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to
the memory of my mother
Zinat

FOREWORD

In October 1976, long before the tremendous interest in suction lipectomy swept the country, Bahman Teimourian, an innovative plastic surgeon from Washington, D.C., used a uterine curette to remove fat in a secondary thigh-lift. He later modified a fascia lata stripper to expand the use of suction curettage from small localized areas to larger ones. Other than the few close colleagues who heard him describe his procedure in 1978, most surgeons were unaware of Dr. Teimourian's concept of body contouring.

I had the good fortune to see his presentation on *A New Approach to the Removal of Fat in Lipodystrophies* at a Southern Medical Association Meeting in Las Vegas in 1979. I was so impressed that I encouraged him to present his technique to the American Society for Aesthetic Plastic Surgery. In May, 1980 he gave the first national presentation of his technique to this group in Orlando, Florida. Over the next 2 years, 78 plastic surgeons visited him in Washington, D.C. to observe his technique.

However, it was 1983 before widespread interest in suction lipectomy occurred in organized plastic surgery. The race to establish precedence of this procedure began. In the fervor to learn the new technique, many were unaware of the original contributions of Dr. Teimourian. His vast clinical experience and his extensive studies of fresh cadavers enabled him to develop an instrument for subcutaneous endoscopy. This allowed him to be the first to visualize and photograph the preservation of nerves and vessels to the skin in suction lipectomy. His accomplishments clearly establish him as an authority in suction lipectomy.

The credibility of the originator and the long-term follow-up of results are important in evaluating any new procedure. Dr. Teimourian cautions that there are pitfalls involved in this procedure, despite the apparent ease of performance. Only careful patient selection and skill will achieve acceptable results for both patient and surgeon.

This book is the culmination of Dr. Teimourian's 10 years of experience using techniques that he developed. It will be invaluable to plastic surgeons who seek to discover the advantages and limitations of suction lipectomy.

John R. Royer, M.D., F.A.C.S.

PREFACE

When I first began to use suction lipectomy in 1976, there were no books about the technique or any references to it in the medical journals. It was therefore necessary to explore its possibilities very slowly and to use it at first only on areas usually reduced by conventional techniques for fat removal. The results were so good and so consistent that it was logical to progress to using suction lipectomy on areas previously considered inaccessible for body contouring. But there was also a need for new instruments, and little was yet known about the effect of suction lipectomy on the treated tissues.

At the same time that I was conducting my studies in Bethesda, Maryland, Drs. U.K. Kesselring in Lausanne, Switzerland and Y.G. Illouz in Paris, France were also developing suction lipectomy techniques. Unknown to each other personally until 1983, we each saw the potential of this new method for fat removal and used slightly different approaches to achieve the same end results—namely, satisfied patients. Undoubtedly there will be other surgeons who will continue to improve the technique. A number of companies already offer a wide variety of instruments for suction lipectomy. And a new technique, semiliquid fat grafting, is currently being developed for the repair of body deficits, or depressions. This technique holds promise for repairing some of the damage that may result through inexperience with suction lipectomy.

My aim in writing this book has been to draw upon my 10 years of experience with suction lipectomy to produce a manual for other plastic surgeons and physicians who may want to practice the technique. Each chapter describes the operation on a different part of the body and includes information on patient evaluation; preoperative planning, including marking, preparation, and anesthesia; and postoperative care, as well as on the intraoperative technique itself. The book's emphasis, however, is on patient selection and the avoidance of complications.

Suction lipectomy looks so simple to perform that it is easy to gain more confidence in one's abilities than is justified by one's experience, thus mistakes are easily made—but they are difficult, and often impossible, to correct. They are therefore best avoided by being well informed about the technique; by being cautious and conservative in removing tissue; by practicing, as we did in the early years, on cadavers; and by selecting for the operation only those patients who are really appropriate for such treatment.

Suction lipectomy has received much publicity in newspapers and magazines and on television, and an increasing number of people are requesting the operation. It is therefore important for information about the technique

to be available to anyone who may wish to practice it. I hope that by writing this book I will have contributed to the safety of patients who undergo the operation.

I would like to thank the following people for helping me to prepare this book: Dave Klemm for medical illustrations, Ruth Kulstad for editing, and Joan Malekzadeh for secretarial support.

I would also like to thank my teachers, Drs. Maxine Shurter and Gordon Letterman, who have been a constant source of inspiration in developing the technique and who encouraged me to write this book.

Bahman Teimourian

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Chapter 1

EVOLUTION OF SUCTION LIPECTOMY

The major developments in suction lipectomy have occurred within the last 10 years, 1976 to 1986. What began as an exploratory technique, performed with instruments designed for other purposes, has only recently become the primary method for localized fat removal. By experimenting with smaller diameter instruments, some designed specifically for suction lipectomy, and refining the technique to give the best possible results without the frequency of the earlier complications, such as seroma formation, plastic surgeons have revolutionized the science and the art of body contouring.

Dr. Joseph Schrudde of Germany was one of the first plastic surgeons to use a curette for the specific purpose of fat removal.¹ In the late 1960s Schrudde used a curette to loosen and remove fat initially from the lower extremities, and later from other parts of the body. Because he encountered a high degree of seroma formation, Schrudde decided to irrigate the wounds to remove the fatty fragments; then he found he could use a vacuum pump to remove the debris.

One of his earliest formal presentations was at the first meeting of the International Society of Aesthetic Plastic Surgery in Rio de Janeiro in 1972. Here Schrudde introduced his procedure, which he called *lipexheresis*, a term derived from the Greek words *lipos*, meaning fat, and *exainesis*, meaning removal. At this time his technique was to mark the location of the incision, use scissors to form a tunnel 1 cm below the surface of the skin, and remove the fatty tissue from both sides of the tunnel, first with a small curette, then with a larger curette, which allowed removal of a deeper layer of fat. Only in exceptional cases was the curette turned toward the skin surface. Finally, he would remove the fat particles by irrigation and suction, insert a drain, and suture the skin.

In the early years, Schrudde did this operation only occasionally. From 1970 to 1980, however, he performed this procedure 83 times on thighs, 49 times on knees, and 15 times on lower legs. However, seroma was still a frequent complication. He attributed the focal necrosis of the skin of the lower thigh, which he saw initially, to lacerations of tender perforating vessels. To avoid this complication he operated on either the lateral or the medial aspect of the area first, and then he completed the operation a few days later. In 250 operations he encountered only three cases of infection; he attributed this good record to the prolonged use of drains.

Schrudde also described cavities that develop when persistent seroma prevents the detached skin from adhering to underlying tissue. These cavities become surrounded by fibrous capsules that tend to shrink and thus result in wrinkles on the skin.²

In 1976 Arpod and George Maurice Fischer,³ the latter an American working in Rome, developed an instrument called the *cellulosuctiontome*, an electrically driven mechanical device consisting of a blunt cannula with an attached moveable blade and with tubes connected to a power sprayer and a vacuum pump. The Fischers used a planatome to undermine the adipose tissue, and then used the cellulosuctiontome to morsellize and extract the fatty debris.

For 2 years the Fischers used these instruments on about 250 patients, with the majority of them showing favorable results. However, several patients had persistent seroma and 5 showed capsule formation of the type described by Schrudde. There were also large numbers of transient seromas and pseudobursas, and skin necrosis was common. Several surgeons in Europe who heard about the Fischers' work, probably at the 1977 International Meeting of Plastic and Aesthetic Surgeons in Mexico City,⁴ tried using the technique on their patients and also reported significant numbers of complications.

During this same period three other surgeons were independently developing suction lipectomy techniques in Switzerland, the United States, and France: Kesselring in Lausanne, myself (Teimourian) in Washington, D.C., and Illouz in Paris.

Dr. Kesselring began his technique in 1976 and published his first description in 1978. At first he used a curette that was 40 cm long and somewhat flattened, with the tip contoured for sliding through the tissue easily; the tip had a cutting lip to prevent it from becoming jammed with fat.⁵ Kesselring's technique for the hip area is as follows: he undermines the area over the trochanteric deformity immediately above the tensor fasciae latae and inserts his suction cannula with the curetting surface toward the skin flap. He shaves and aspirates the fat at the same time. He then uses Penrose drains for 3 to 7 days and a compressive, adhesive dressing for 2 weeks. Dr. Kesselring operates conservatively and selects his patients with great care, thereby obtaining excellent results with few complications. Recently he has expanded the use of his technique to more difficult areas of the body.⁶

In October 1976 at Suburban Hospital in Bethesda, Maryland, I used suction lipectomy on a patient under general anesthesia who had undergone inner-thigh dermatolipectomy a few years before and was left with two large, bulging dogears on the lower portion of the incisions. To avoid extension of the scar and at the suggestion of the scrub nurse, I used a Berkeley aspirating machine to remove the fat from the dogears. At this point I became aware of the potential uses of the aspirating machine. The result was good, and I became enthusiastic about its possibilities and continued to use it in post-surgical and posttrauma cases. When doing my first reduction of the trochanteric area, I used a modification of a fascia lata stripper, primarily because of its length. The tip had been made blunt, and a large opening with a smooth edge had been created on the side (Fig. 1-1).

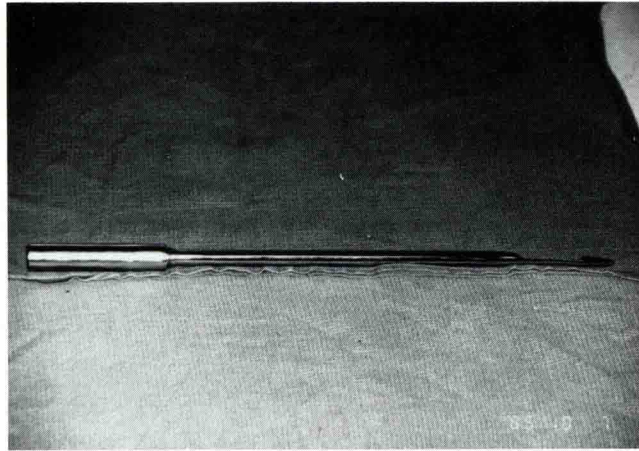


FIGURE 1-1 The fascia lata stripper that was modified with a blunt tip and large opening on the side was the first cannula that I used for this procedure.

For the next 3 years I experimented with 14 different prototypes of the instrument that I now use.⁷⁻¹⁰ While I did this work and improved my technique, I performed extensive studies on fresh cadavers¹¹ (Figs. 1-2 to 1-8) and eventually developed an instrument that permits suction lipectomy under direct vision.¹² This instrument, which is used primarily for investigation and teaching, has an opening at the tip and three openings on the proximal end, one for suctioning, a second for the introduction of a medium such as saline solution or carbon dioxide, and a third for insertion of a telescope (Fig. 1-9). The field can be inspected under direct vision (Fig. 1-10), or the image

Text continued on p. 9.

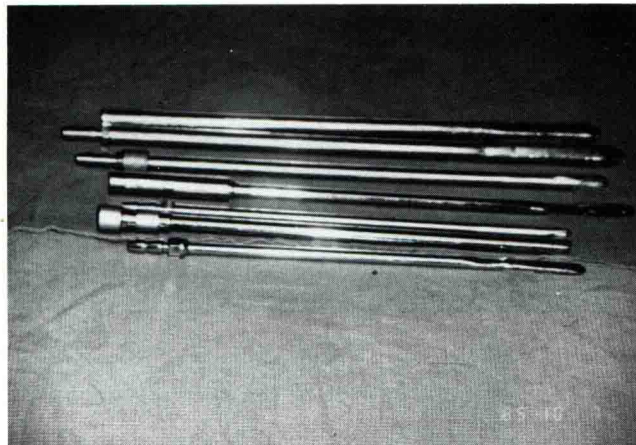


FIGURE 1-2 Several early cannulae; some had an external diameter of 1.5 cm.

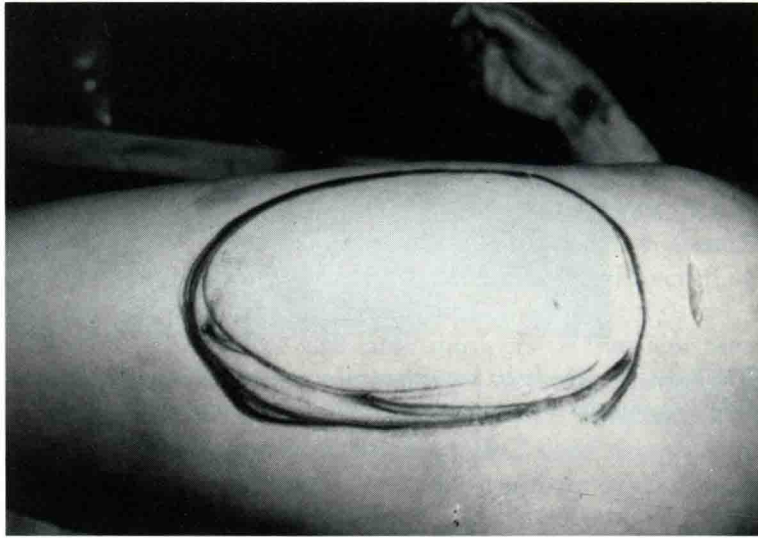


FIGURE 1-3 Suction lipectomy site on the thigh of a fresh cadaver. (From Teimourian, B., Adham, M.N., Gulin, S., and Shapiro, C.: *Ann. Plast. Surg.* 11[2]:93-98, Aug. 1983.)

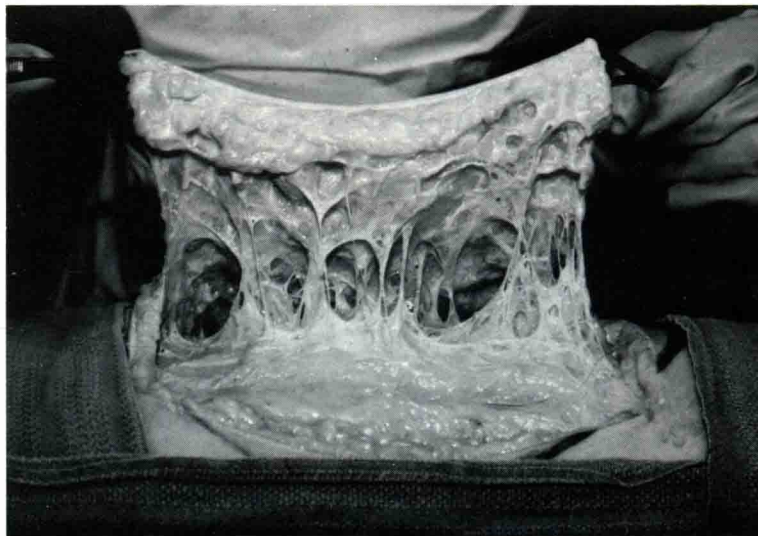


FIGURE 1-4 The flap is raised to demonstrate the honeycomb appearance of the treated area. (From Teimourian, B., Adham, M.N., Gulin, S., and Shapiro, C.: *Ann. Plast. Surg.* 11[2]:93-98, Aug. 1983.)

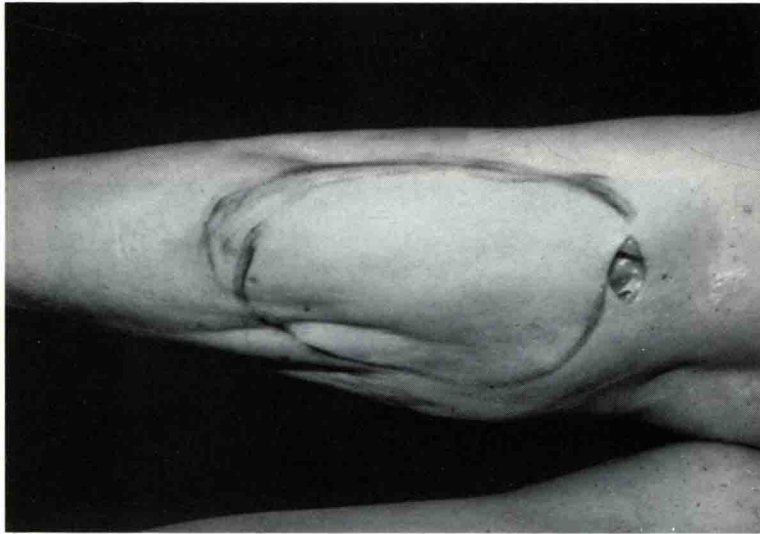


FIGURE 1-5 Suction site on the calf of a fresh cadaver. (From Teimourian, B., Adham, M.N., Gulin, S., and Shapiro, C.: *Ann. Plast. Surg.* 11[2]:93-98, Aug. 1983.)

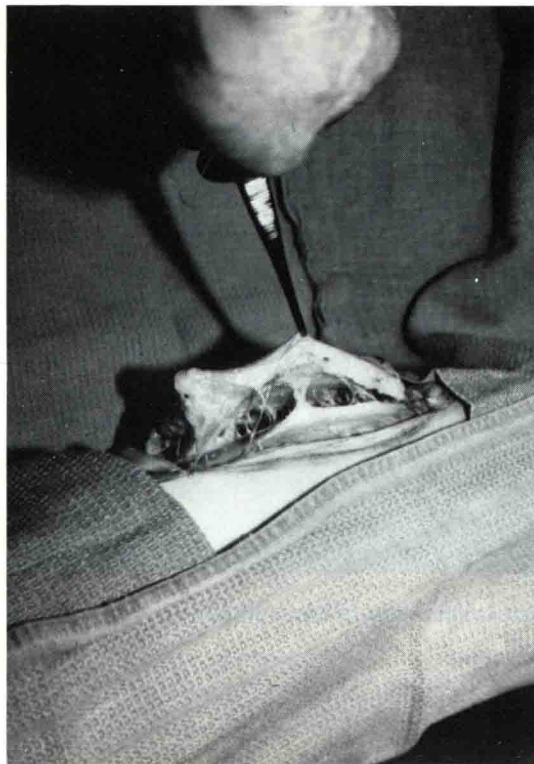


FIGURE 1-6 Elevation of the flap on the calf to show the septa after suctioning.



FIGURE 1-7 The septa have been removed and placed on a towel.

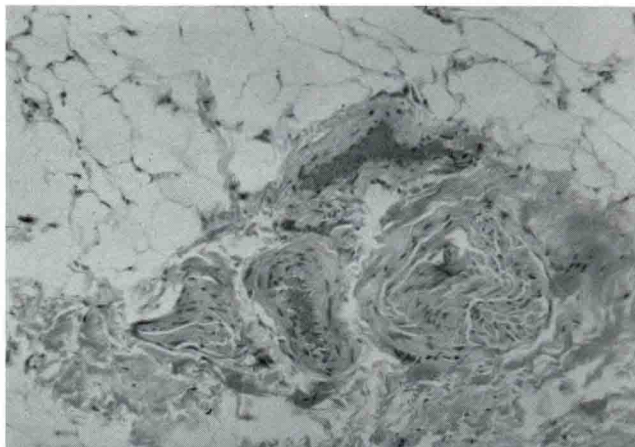


FIGURE 1-8 Microscopic study of the septa shows the presence of intact nerves, veins, and arteries.

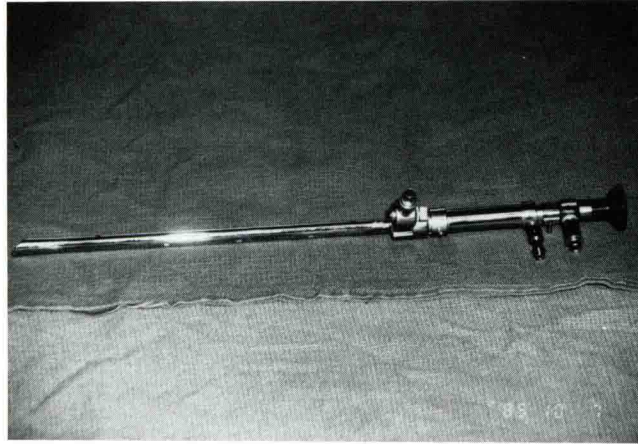


FIGURE 1-9 The instrument developed for investigation and teaching. It has three lumens, one for extraction of tissue, one for introduction of a medium such as saline solution or carbon dioxide, and the third for introducing a telescope and light near the tip of the instrument.



FIGURE 1-10 Use of the instrument permits direct vision of the operative field.

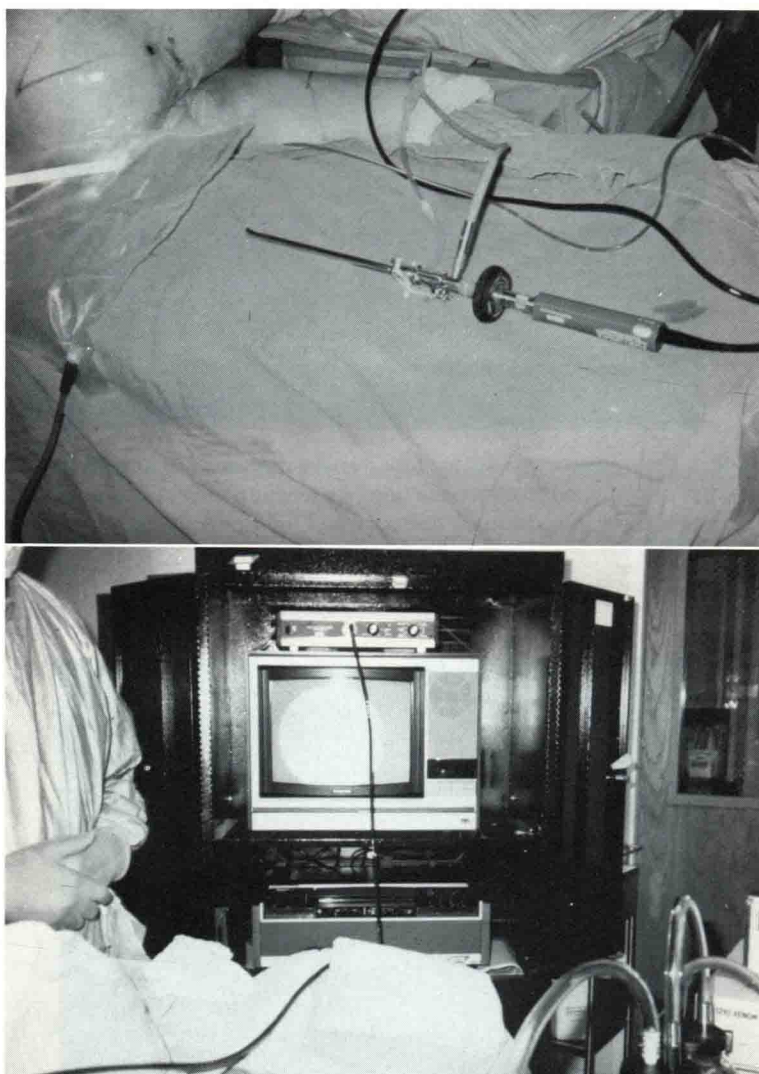


FIGURE 1-11 The instrument is attached to a solid-state camera before being used on a patient and the operative field can be observed on a television monitor.