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Suction lipectomy: a useful new tool for the plastic surgeon

The development of small (3-6 mm diameter) blunt cannulas has enabled plastic surgeons to remove large and small subcutaneous fat deposits from virtually every place in the body. Limiting these removals to less than 2,000 cc enables us to perform this surgery as an outpatient procedure and contour the body to correct figure faults for a variety of aesthetic and functional diagnoses. Our experience with nearly 1,000 procedures over four years demonstrated minimal complications with a high patient satisfaction.

Among the many problems that plastic surgeons face, one of the most common, especially among women, is that of localized fatty deposits that are out of proportion with overall bodily contours. Until recently, the only means of improving these figure faults—was by surgical removal of the entire offending area, including overlying and surrounding skin. No matter how skillful the surgeon, some scarring was unavoidable in such procedures, with results often no more acceptable than the original defect. Now, in the blunt technique of suction-assisted lipectomy, we have a new method for removing fatty deposits with minimal scarring and consistently satisfactory results.

Many early reports on removal of subcutaneous fat by suction curettage utilized some variation of the so-called "sharp" technique. Complications were common using this technique, which involves sharp undermining and scraping of the skin prior to removal of loosened fat by suction. As a result, the sharp technique, though widely employed in Europe, gained little support in the US.

The blunt technique

The French surgeon Illouz (who trained in plastic surgery in the US) developed a technique of suction lipectomy that avoided many of the problems of the sharp technique (1). The Illouz technique, also known as the "blunt" technique, utilizes a blunt cannula with a blunt hole on one side. This cannula, which may measure from 3—8 mm in diameter, is passed under the skin into the fatty deposit. Fat cells are then removed by application of maximum amounts of suction as the cannula is passed in and out in multiple radial pathways until all desired fat cells have been removed. By moving it back and forth in this manner, never in a side-to-side "windshield wiper" motion, the cannula tends to push nerves and vessels aside, rupturing only the amorphous, fragile fat cells. Perforating vessels are not injured and a diffuse network of tissue attachment remains, connecting the overlying skin to the underlying fascia.

When the suction lipectomy is first begun, the

suction tubing contains a bright, clear yellow fat that is semi-fluid, flowing gently and evenly up the tubing. Once an area has been "vacuumed clean," the effluent becomes first pink-tinged and then red. This indicates it is time to cease suction in that area. Once all desired fat cells have been removed, wounds are closed with absorbable subcuticular stitches and reinforced with suture strips (Genetic Labs). Drains are not required and hematomas are rare in areas treated.

Applications

The Ad Hoc Committee on New Procedures of the American Society of Plastic and Reconstructive Surgeons (ASPRS), after an intensive investigation, reported on the Illouz blunt technique of suction lipectomy in 1983. "It would appear that we now have a relatively satisfactory surgical method," the report concluded, "if utilized in the hands of appropriately trained and experienced surgeons for the treatment of disharmonious obesities or congenital steatorrheas (segmented genetic fat)." The committee concluded that the blunt technique is safe and effective not only for the removal of saddle bags (ie, riding britches) but also for "removal of fat from the abdomen, hips (love handles), medial thighs, larger saddle bag deformities, and can be extended to fat deposits of the knees, arms, or lipomas" (2).

The blunt technique, as refined in the US by Hetter, Courtiss, and others, has in fact become the preferred technique for correction of most localized figure faults caused by isolated fatty deposits that are resistant to diet therapy (3—6). Suction lipectomy has also proven useful in altering facial contours in plastic surgery (7).

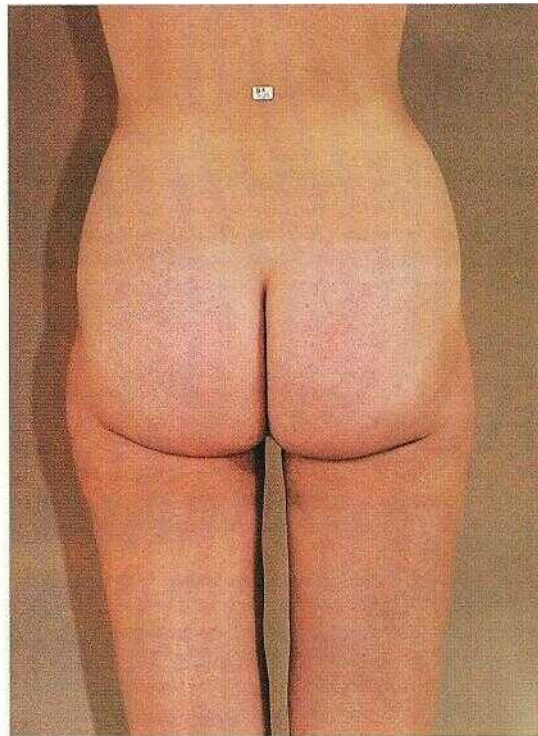
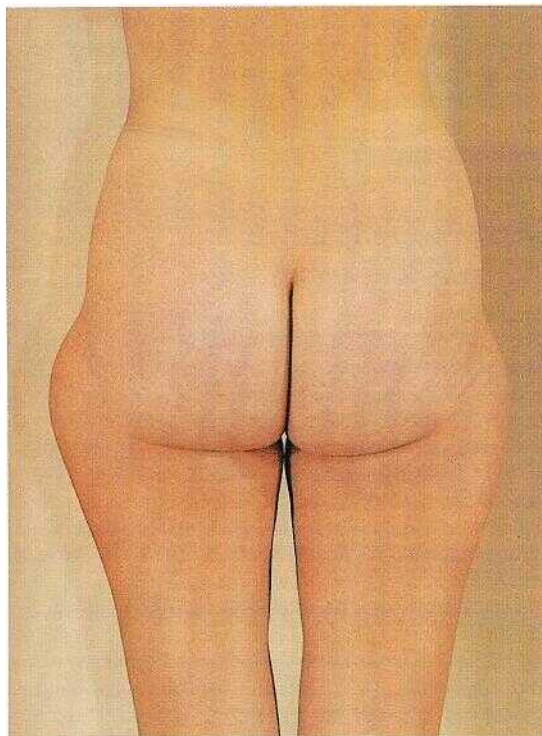
Suction lipectomy, it must be clearly emphasized, is not indicated for treatment of generalized obesity but only for localized fatty deposits. Within this limitation, the technique has multiple possible applications. We have used the blunt technique to those areas recommended by the ASPRS but also to the cheeks, neck, scalp, mons, and buttocks. We have even used it to remove excess fat in the axillary folds and behind the borders of the latissimus dorsi muscle into the back for a more satisfactory cosmetic result in breast reductions. Suction lipectomy is also useful in removing fat from the edges and corners of larger wounds where other reconstructive procedures have been done. We have removed multiple lipomas from the neck, back, arms, and thighs, removing as much as 2,300 mL of fat via a single 3-cm remote scar. Releasing a 10 x 25 cm abdominal flap to cover a degloved hand, we were able to close the entire donor site primarily by sucking a liter of fat from each side of the waist. The patient, who was moderately obese, would otherwise have required a large skin graft.

A key element in the success of suction lipectomy

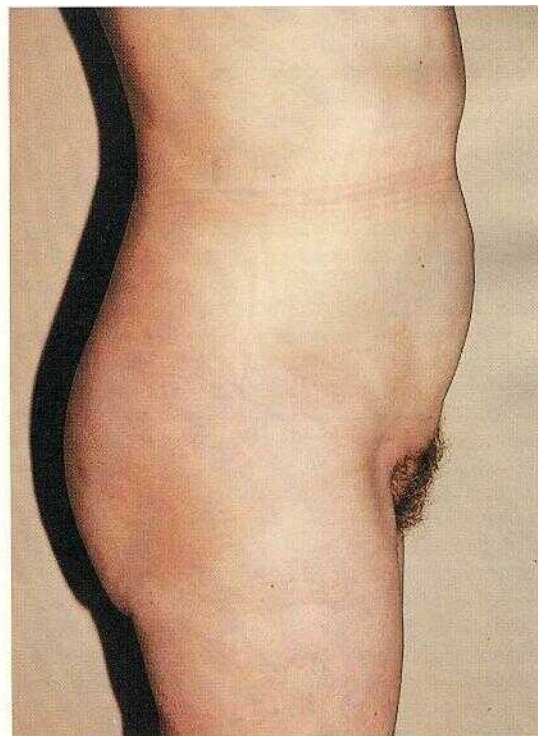
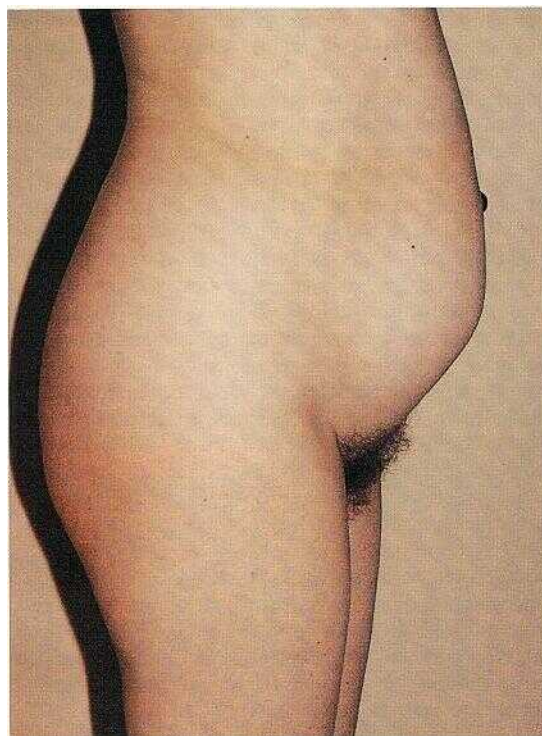
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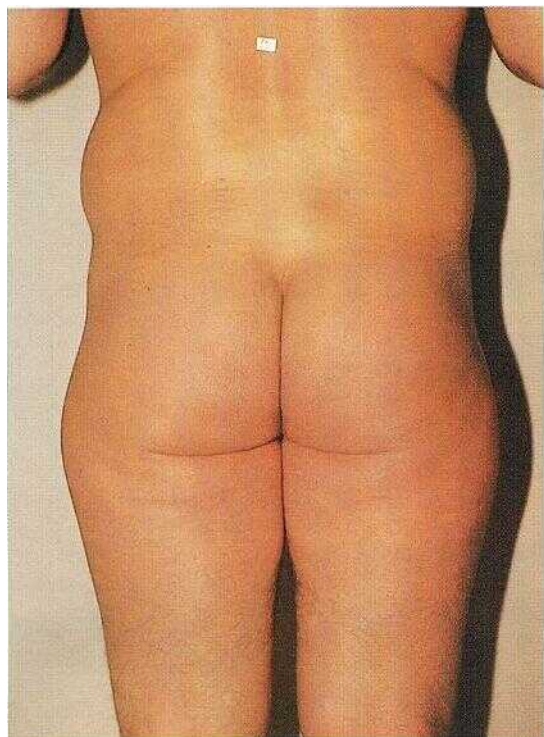
Lipectomy

1. Patient 1: a. (before) and b. (after): Suction lipectomy was used to remove approximately 1,000 mL from each side of the "saddle bag" area in this 26-year-old woman.



2. Patient 2: a. (before) and b. (after): Approximately 3,500 mL of fatty deposit were removed from the abdomen, medial and lateral thighs, and buttocks in this 46-year-old woman.





3. Patient 3- a.
(before) and b. (after):
Approximately 1,500 mL of fatty deposit were removed from waist, and "love handles" and 1,000 mL from medial thighs and buttocks. The patient was a 29-year-old man.



4. Patient 4: a
(before) and b. (after):
This 50-year-old woman underwent suction lipectomy to remove 40 mL of fat from her cheeks and neck. No facelift or other surgery was performed

is patient selection, not only as regards identification of problems but of appropriate expectations as well. The procedure is useful in improving the patient's existing overall bodily contours, and patients should clearly understand and accept this. The patient with a totally negative body image will not be helped and may even be dissatisfied with realistically attainable results.

Clinical considerations

The total amount of fat removed by suction lipectomy varies widely. We have removed as much as 8,000 mL from a single patient, but the amount removed is most often under 2,000 mL. Such smaller cases can be routinely done under local anesthesia on an outpatient basis, with minimal blood loss. Hospitalization and general anesthesia are indicated where the amount to be removed approaches 3,000 mL. Beyond this level, the need for blood replacement increases rapidly. Because of this, we have had a number of patients needing removal of large amounts of fat opt for what we have termed serial suction lipectomy. In two or more outpatient procedures spaced several weeks apart, we remove smaller amounts of fat until the final result is achieved.

Serious complications using the blunt technique are rare in well trained hands, but serious life-threatening injuries have occurred when basic principles were violated. The most common post-operative problem we have seen is a slight waviness or wrinkling of the skin over the treated area. Older patients with visibly loose skin may tend to have less satisfactory results. Skin discoloration and changes in sensitivity in the treated area are encountered less frequently, and these usually improve after a relatively short time. Results in four separate patients are shown in Figs 1-4.

In summary, the blunt technique of suction-assisted lipectomy is a safe, effective procedure for correction of figure faults caused by localized fatty deposits as well as a useful adjunct to improve results in numerous other plastic surgery procedures.

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