

Adrien E. Aiache

38.1 Introduction

The use of autologous fat for buttock augmentation has evolved from the use of fat in many areas of the body. It has been the result of the learning experience in autologous fat transfer for tissue augmentation in many parts of the body such as the ankles, dorsum of the hands, the deltoid area, and inner thigh. This technique is derived from prior techniques of autologous fat aspiration and grafting.

History shows that autologous fat has been used since the end of the nineteenth century. Surgeons such as van der Meulen (1), Neuber (2), Lexer (3), Willi (4) Peer (5), Fischer (6), Illouz (7), and others have shown the advantages of using fat for soft tissue augmentation. These pioneers paved the way for the actual use of fat in body augmentation.

The surgeon uses fat transfer quite often instead of facial and body implants. Using fat is relatively acceptable to patients, gives relatively good results, and has very little postoperative problems.

The meeting of the American Society of Plastic Surgeons Ad Hoc Committee on Autologous Fat Transplantation (8) estimated that approximately 30% of the autologous fat injected survives, although the surgeon/author was present at the session and objected by stating that only approximately 5–10% of injected fat might survive. The difference in these estimated percentages of fat survival can be obviated by repeated injections of fat in order to achieve the wanted result.

A. E. Aiache
9884 Little Santa Monica Blvd, Beverly Hills, CA 90212, USA
e-mail: aaiachemd@sbcglobal.net

38.2 Indications

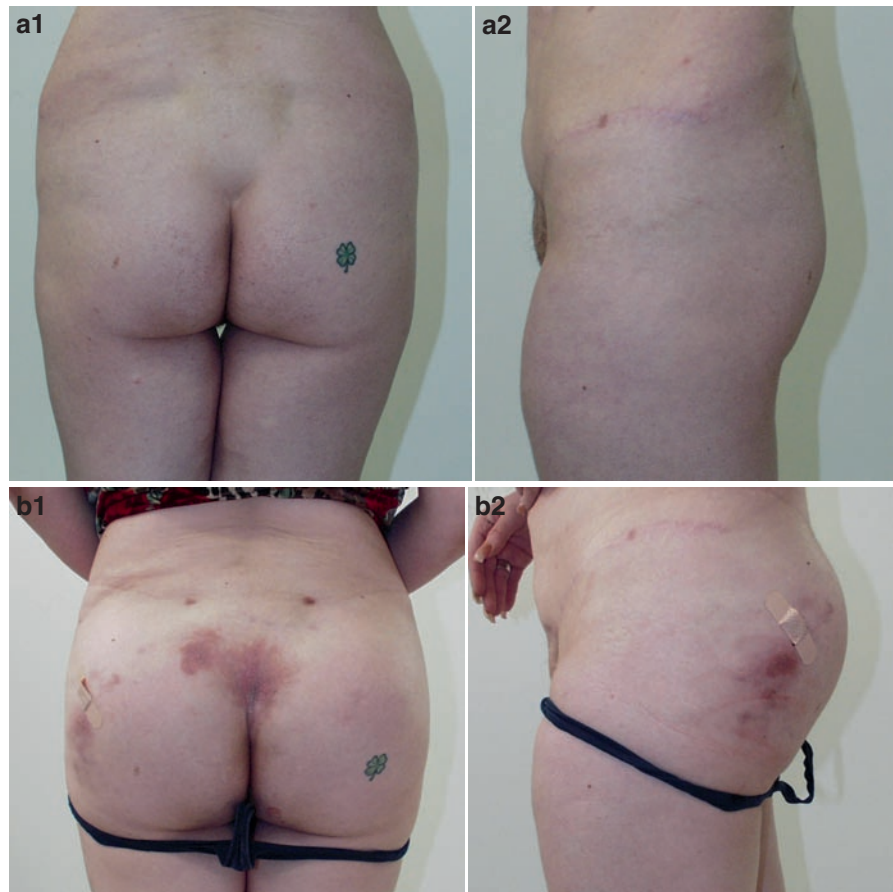
Patients desiring soft tissue augmentation are often overweight and have excessive amounts of anterior abdominal and chest fat as opposed to the buttocks that have not really increased. This seems to be a genetic problem, since many women coming to the surgeon for buttock and hip liposuction are not the same as women who come for buttock augmentation and abdominal reduction by liposuction or abdominoplasty. The surgeon has found that the latter type of patient is a good source for autologous fat. This type of patient was treated with performing buttock implants and abdominal liposuction with occasional injection of aspirated fat into the buttocks in an attempt to improve the shape and contour of the buttock implant. This technique led to purely autologous fat augmentation of the buttocks since the gluteal implants are often prone to many problems such as infection, displacement, seroma, and wound breakdown.

The technique of autologous fat transfer to the buttocks is simple and often can be used as a complement to abdominal liposuction since the fat is available and can be put to use.

38.3 Technique

The zone to be augmented is marked. This encompasses the medial portion of the buttock and is reduced laterally in a triangular form down to the infragluteal fold. Some patients are eager to have the lateral crease implanted in an effort to augment the buttocks laterally. Areas of liposuction are also marked including the iliac crest, waist, and abdomen.

Fig. 38.1 (a1, a2)
Preoperative patient. (b1, b2)
Postoperative following
buttock implants with
liposuction of lower buttocks
and iliac crest



The surgery is performed under general anesthesia. Liposuction is performed first, in many cases with the patient prone, so as to remove fat from the iliac crest and waist area through two parasacral incisions or sometimes a supracleft incision that can be used for fat augmentation subsequently (Fig. 38.1).

Liposuction is performed through two parasacral incisions, a central spinal incision, or a central cleft incision using a tumescent solution consisting of 1,000 mL saline containing Xylocaine 500 mg with epinephrine 1:1,000,000 in the area of liposuction. The same solution is injected into the premarked areas for fat injection in order to reduce bleeding following fat injection.

38.4 Liposuction

Liposuction is performed through a syringe technique with 60 mL Toomey syringes with 3-mm cannulas for aspiration of the waist and iliac crest areas. Early in the

liposuction the fat is extremely clean but later in the process some bloody fluid may be aspirated at the same time. The fat is deposited in a sterile container until an acceptable amount of fat is obtained (approximately 300 mL for each buttock) and allowing the fat to float to the top. The fat is transferred to 60-mL syringes, the bloody fluid ejected. Fat may then be liposuctioned by machine to shape better the iliac crests and waist when there is no plan for a secondary procedure in the future and when the surgeon desires a smooth result (Fig. 38.2).

38.5 Fat Injection

The fat is injected through the prior incisions for fat retrieval into the buttocks in a fan-like fashion depositing small amounts of the fat into multiple tunnels as the cannula is withdrawn. This process is repeated until all the fat has been used. The wounds are then sutured (Fig. 38.3).

Fig. 38.2 (a1, a2) Preoperative patient. (b1, b2) Postoperative after buttock implants and liposuction of lower buttocks

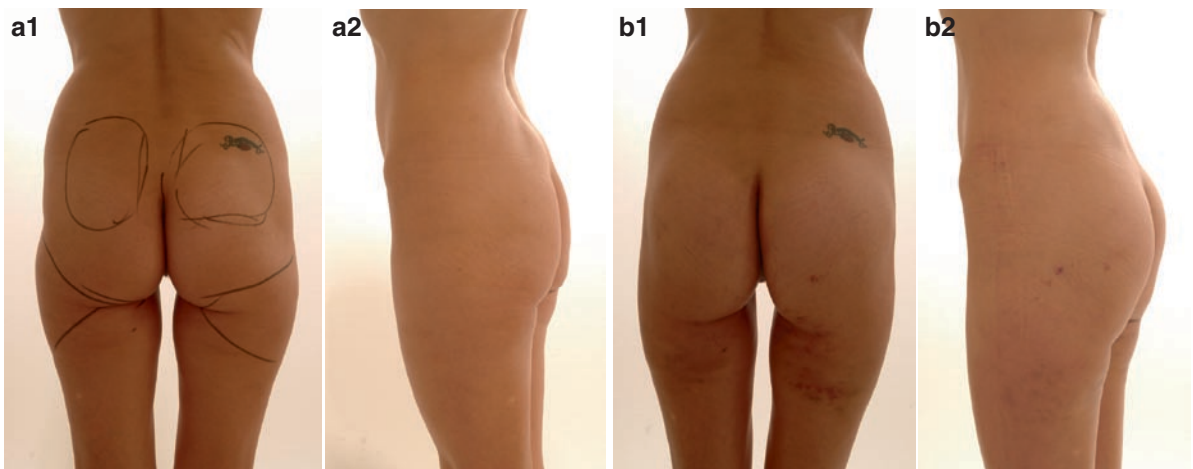
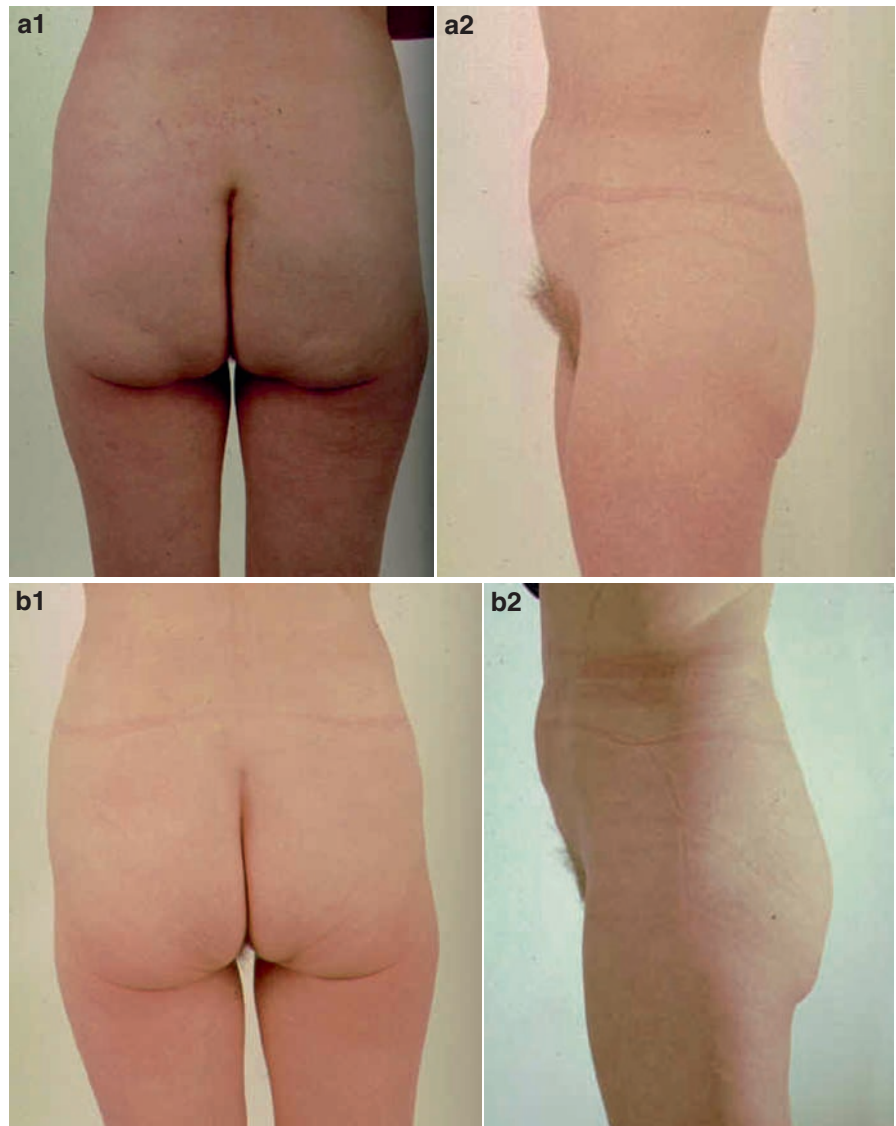


Fig. 38.3 (a1, a2) Preoperative patient. (b1, b2) Postoperative following fat transfer to buttocks

38.6 Further Liposuction and Injection

The patient is turned into the supine position and the epigastrium, lateral anterior waist and lower abdomen are injected with tumescent fluid and liposuctioned through umbilical and suprapubic incisions that can be supplemented with lateral waist incisions. Liposuction is performed with the 60-mL syringes with 3- and 4-mm cannulas, and the aspirate is deposited in a sterile container for further cleansing and use for fat transfer. Machine liposuction is used to refine the areas that have been liposuctioned. The wounds are the sutured.

The patient is turned into a prone position if additional fat is necessary for injection and the areas sterilely prepped. The wounds are reopened in the parasacral and superior cleft areas. Additional fat is injected into multiple tunnels into the zone to be further augmented. In some cases, an inferior lateral gluteal fold incision is made bilaterally to complete injection of fat into the infragluteal portion of the buttocks. A maximum of 300 mL of fat is used since more fat will not get an increased survival of the excess. Excess fat is preserved in sterile condition and frozen for use within 3–6 months if necessary.

38.7 Postoperative Care

The patient is not to sit on her buttocks for 3–4 days in order to avoid compression in the area of the injection and to allow some revascularization of the injected fat. Autologous fat will only survive if a certain amount of new circulation develops into it and, from experience and studies no longer/ only the, after 3–4 days if the fat has not obtained neovascularization it is reabsorbed by the body as dead tissue adipocytes that have been supplied with neovascularization are going to survive.

38.8 Complications

Ecchymosis, rare hematomas, pain, and soreness have been seen. No cysts have been encountered and no induration has been found. No infection has been encountered bearing in mind that the location of the surgery dictates extreme care in the washing and prepping, often using Betadine fluffs sutured to cover the anal opening.

38.9 Results

Fat transfer has given acceptable results in many patients. Pure adipose implantation is becoming more common as it shows promising results with good augmentation and no significant complications or problems. Fat can be used in cases of unsatisfactory gluteal implants and as an additional procedure with gluteal implants concomitantly or at a later date.

References

1. van der Meulen, Richard MA. *Considérations générales sur les greffes graisseuses et serograisseuses épiploïques et leurs principales applications*. Paris, Thèse 1919, pp. 11.
2. Neuber F. *Fettransplantation*. *Chir Kongr Verhandl Deutsche Gesellsch Chir*. 1893;22:66.
3. Lexer E. *Freie Fettransplantation*. *Deutsch Med Wochenschr* 1910;36:640.
4. Willi CH. *The Face and its Improvement by Aesthetic Plastic Surgery*. London, MacDonald & Evans, 1926.
5. Peer LA. *Cell survival theory versus replacement theory*. *Plast Reconstr Surg* 1955;16(3):161–168.
6. Fischer G. *Surgical treatment of cellulitis*. IIIrd Congress International Academic Cosmetic Surgery, Rome, May 31, 1975.
7. Illouz Y-G. *The fat cell "graft": A new technique to fill depressions*. *Plast Reconstr Surg* 1986;78(1):122–123.
8. ASPRS Ad-Hoc Committee on New Procedures. *Report on Autologous Fat Transplantation*. *Plast Surg Nurs* 1987;7(4):140–141.
9. Aiache, Adrien E. *Gluteal recontouring with combination treatments: Implants, Liposuction, and Fat Transfer*.