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Aesthetic Surgery Techniques

A Case Based Approach

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Body Contouring Following Massive Weight Loss

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/ The Clinical Problem (Fig. 34.1)

Truncal body-contouring surgery aimed at excising large quantities of redundant skin and subcutaneous tissue, especially after massive weight loss, with or without bariatric surgery, is not without risk, but can be made safer and more rewarding for many patients. Liposuction-assisted pseudo-undermining technique helps preserve the lymphatics around intact Scarpa's fascia and reduces the problems with seroma formation, wound healing and flap necrosis. It also allows enhanced sculpturing of the flanks (love handles), as well as epigastric fullness. Liposuction-assisted pseudoundermining is time-efficient and causes less blood loss, and suction drains may not be required. This facilitates early mobilization and reduces hospital stay. Postoperative use of compression garments for at least 6 weeks is advised.

Surgical Preparation and Technique

Body-Contouring Surgery

Body-contouring surgery has become increasingly popular over recent years, owing to increasing number of weight loss surgery procedures being performed as a definitive treatment for morbid Obesity.[1,2] It is now recognized as a subspecialty of plastic surgery. These procedures are rewarding, with very good patient satisfaction.

Detailed preoperative counseling, selection of safe procedure, meticulous planning, attention to minute aesthetic details, adequate investment of time, and personalized postoperafive care are essential for the best outcome to be attained. A liposuction-assisted pseudoundermining technique is preferred for surgical undermining for all skin reduction procedures. This technique preserves perforators and lymphatics, minimizing the incidence of flap necrosis and seroma. Adjunctive liposuction debulks the skin flaps, improves flap mobility, and facilitates sculpturing.

Conventional procedures carry a higher risk to skin flap vascularity and of wound dehiscence. Pseudoundermining using a power-assisted liposuction device mostly preserves the integrity of Scarpa's fascia.

This chapter focuses on truncal body contouring procedures following massive weight loss, emphasizing key technical features and perioperative care.

Patient Selection

Patients with a stable weight for at least 12 months following massive weight loss, absence of major comorbidities, and abstinence from smoking are the main criteria for selection. It is advisable to defer patients who are younger than 16 years, are active smokers, and have psychosocial conditions until they are no longer smoking and are clearly motivated. Patients who are young and fit can be considered for longer duration combined procedures.

A multidisciplinary approach for an individualized management plan is essential.[3,4]

Preoperative Planning

There should be at least two preoperative consultations with time to reflect on the benefits and risks, with preoperative patient photographs and detailed documentation, including

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measurements. A thorough clinical examination is necessary, particularly examining the divarication of recti, hernial sites, and muscle tone. There should be an assessment of redundant excessive skin and residual fat to determine the type of procedure required.

Counseling of the patient about the procedure includes providing the patient with an information leaflet. The patient should sign a consent form and given the opportunity to speak to a patient who has previously undergone a similar procedure.

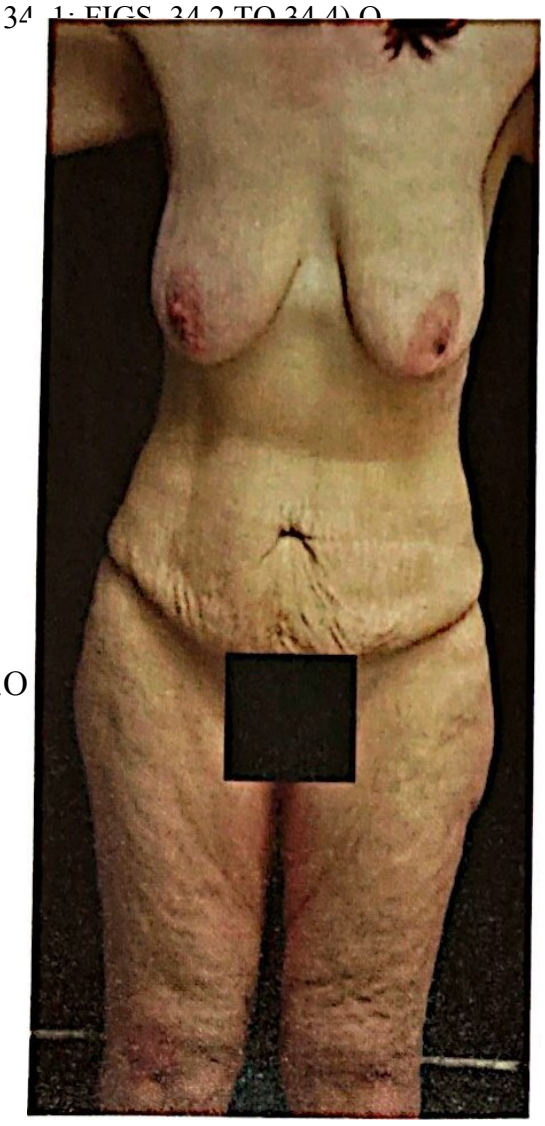
There should be a preoperative anesthetic assessment. The standard preoperative investigation should include the use of methicillin-resistant Staphylococcus aureus swabs.

This is a summary of the suggested preoperative routine:

- Completion of consent form
- Preoperative photography
- Marking for procedure in standing position
- Pinch test and use of multicolor permanent marker
- Marking the proposed site of skin excision and extended zone of liposuction
- Application of compressive stocking
- General anesthesia
- Intravenous broad spectrum antibiotic on induction, continued orally for 5 days postoperatively
- Aqueous povidone-iodine (10%) for skin preparation

Operative Steps (Table 34.1)

LOWER 3[illegible]1; FIGS. 34.2 TO 34.4) O



(Video 34.6).O

FIGURE 34.1
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Begin with the patient in the prone position, using tumescent infiltration, power-assisted liposuction, with no. 4 and 5 cannulae. The ratio of tumescent versus aspirate is 1 : 1.

A so-called flying bird incision is made within the bikini line (Video 34.2). The incision and flap are created with pseu- O doundermining (Videos 34.3 and 34.4). Only flaps of the O proposed zone of skin excision are harvested. The staple test is carried out—stapling future skin edges before excision of excess skin to confirm a tension-free apposition. These temporary staples are then removed before skin excision.

Skin excision (Video 34.5)—uses meticulous hemostasis for O skin closure using the halving technique, planned at the time of marking, with 2-0 Monocryl sutures (Ethicon, Somerville, NJ), deep dermal sutures, and 3-0 Monocryl subcuticular sutures

Tumescent infiltration is done with bupivacaine with epinephrine for long-term analgesia. Tincture of benzoin Steri-Strips and a padded Opsite dressing (Smith & Nephew, Fort Worth, TX; Video 34.7) are applied.

The patient is then turned to the supine position. Skin preparation and tumescent infiltration are carried out as described above (Video 34.8). Exteriorization of the umbilicus O is done with power-assisted liposuction (Video 34.9). A supra- O pubic incision is made (Video 34.10).

The flap is harvested adhering to the principle of Saldanha5

The clinical problem.(Video 34.11). A full-thickness, skin-only flap is harvested up

Table 34.1 Indications for and key features of post-massive weight loss reconstructive procedures

Procedure	Indication	Key features
Lower body lift	Circumferentia\ panniculus of loose skin over lower abdomen	Umbiiicoplasty; correction of divarication of recti redundant
Upper body lift	seqgy skin forming so-caüed banana ori posterolateral aspect of upper back	placement of scar under horizontal strap beek ri the bra
aspect of upper		
Post-massive weight gynecomastia	Loose saggy skin, with severe ptosis of the rnppte-arec!a complex	Liposuction-assisted skin excision, free nippleloss areola composite graft
Mastopexy	Severe ptosis of the breasts	No liposuction

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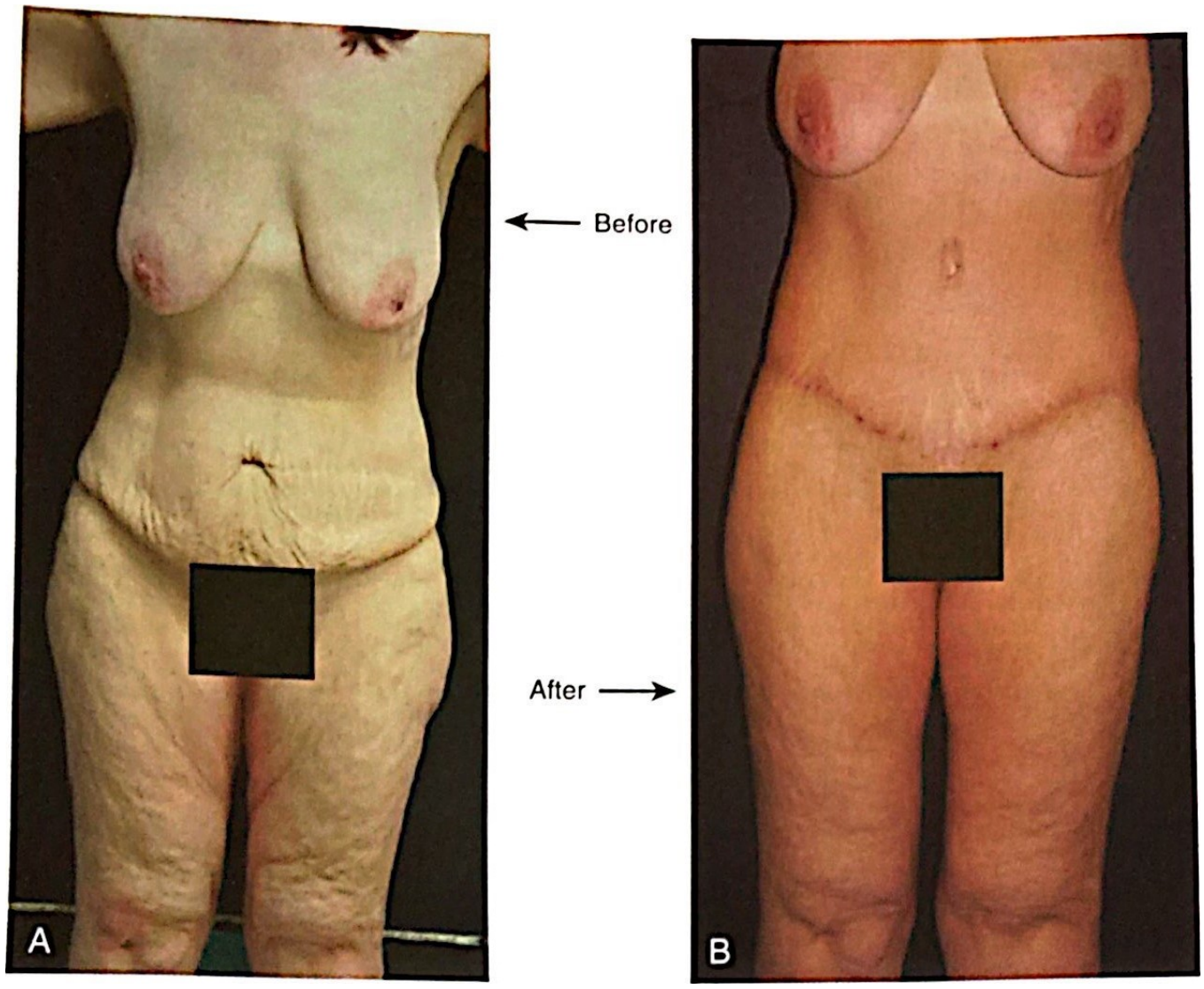
Brachioplasty	Loose redundant skin over the upper arms, bingo wings	No undermining of adjoining flap, extensive forming liposuction underneath proposed skin excision
Thigh reduction	Loose redundant skin, with extensive undermining of adjoining flaps	Absolute attention to tension-free closure, no sagginess over inner thighs
Lipcsuction	Residual saddle bag deformity of outer conjunction with a lower body lift	Improves the sculpturing and assists in thigh lift thighs in
Power-assisted body sculpturing	For pseudoundermining, volume reduction,	Extensive liposuction with 4- and 5-mm cannulae iposuction and



{E 34.2 Lower body lift and thigh reduction. (A) Preoperative. (B) Three months postoperative, anterior view.

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Lower boay {'ft. (A) Preoperative. (B) Three months postoperative, right lateral view. There was a significant buttock lift and thigh lift.

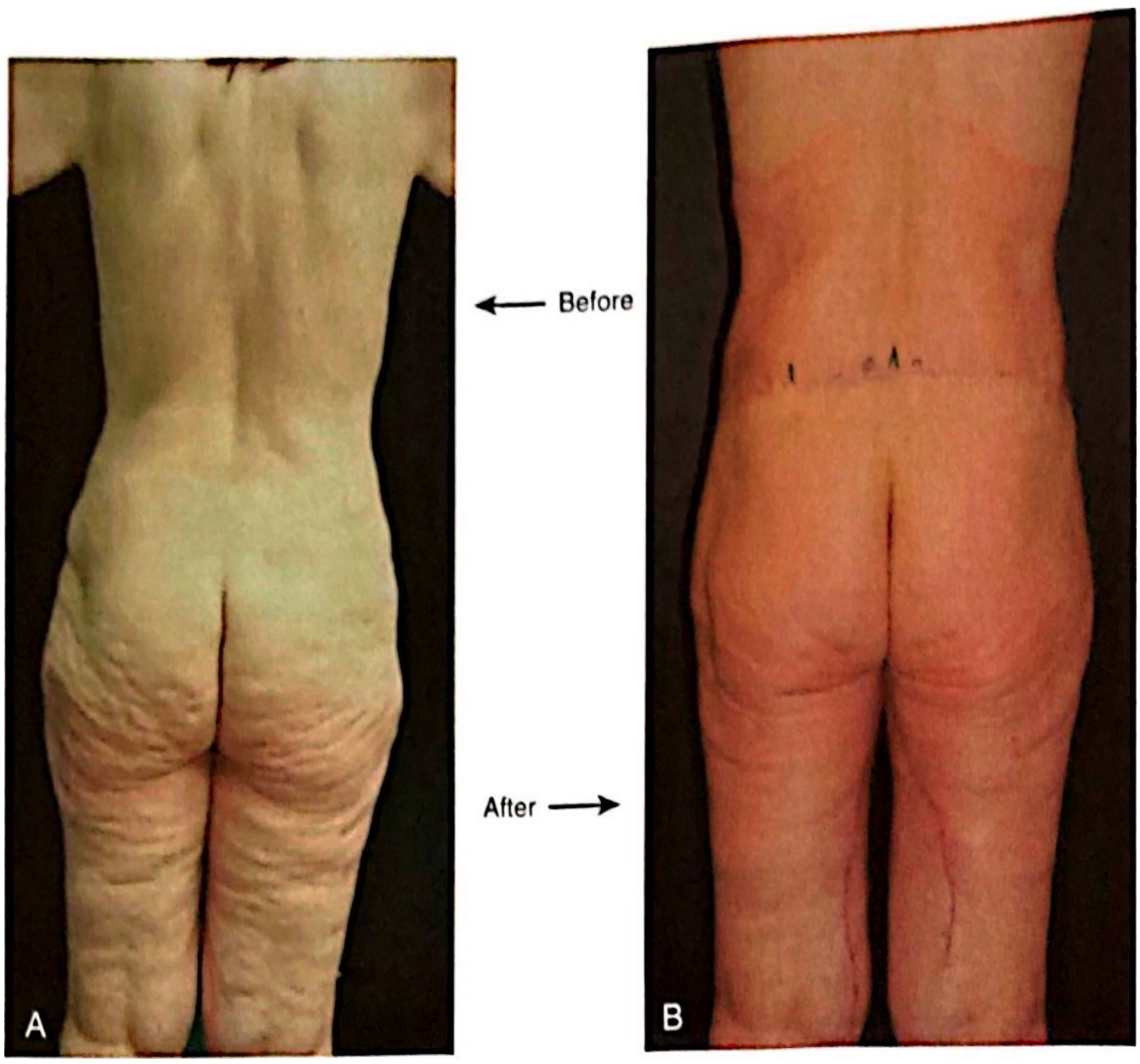

FIGURE 34.4 Lower body lift and thigh reduction. (A) Preoperative. (B) Postoperative, posterior view Note the significant buttock lift.

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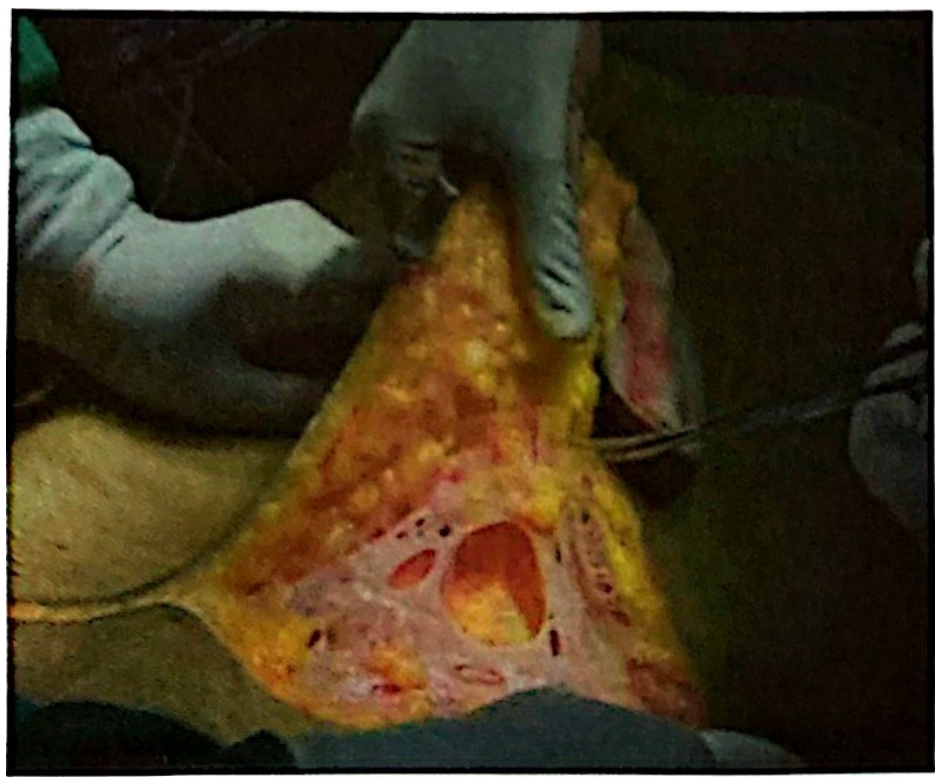

FIGURE 34.5 Extensive liposuction for pseudoundermining and skin-only excision, preserving Scarpa's fascia.

to the proposed site of excision, with preservation of Scarpa's fascia (Fig. 34.5).

Limited undermining of the abdominal flap is done up to O the xiphisternum (Videos 34.12 to 34.14). The lateral perforators of abdominal flap are preserved. Pseudoundermining and deflation of the flap are achieved by liposuction with meticulous hemostasis.

Following this is plication of the anterior rectus sheath with loop PDS 1-0 sutures Il (Johnson & Johnson Medical) using O round-bodied, blunt-tipped needle (Videos 34.15 and 34.16). The staple test is done to ensure skin closure without undue tension. The skin excision is completed, with skin closure and wound dressing as described above (Videos 34.17 to 34.23). A circumferential Gamgee dressing is used to cover the suture lines, and a pressure garment is applied.

Early Postoperative Care

This includes the patient keeping the hips and knees flexed to avoid tension on the suture lines. Mechanical deep vein thrombosis prophylaxis is carried out in the hospital, with early mobilization. The patient is discharged within 2 days postoperatively.

UPPER BODY LIFT (FIGS. 34.6 TO 34.8)

The borders of the patient's bra are drawn preoperatively to guide placement of the final horizontal scar on the back, as shown in Fig. 34.5. The procedure is performed with the patient in a prone position under general anesthesia.

Tumescent infiltration and extensive liposuction are carried out over a wide area, within and beyond the markings. The staple test is done and then remarking of the proposed skin excision within the horizontal strap of the bra. A full-thickness skin excision is performed, with skin closure, dressings, and compression garments as described above.

POST-MASSIVE WEIGHT LOSS GYNECOMASTIA CORRECTION (Fig. 34.9)

The patient is marked in the standing position. The inframammary crease, midline and bilateral midclavicular lines, inferolateral border of the pectoralis major for placement of the

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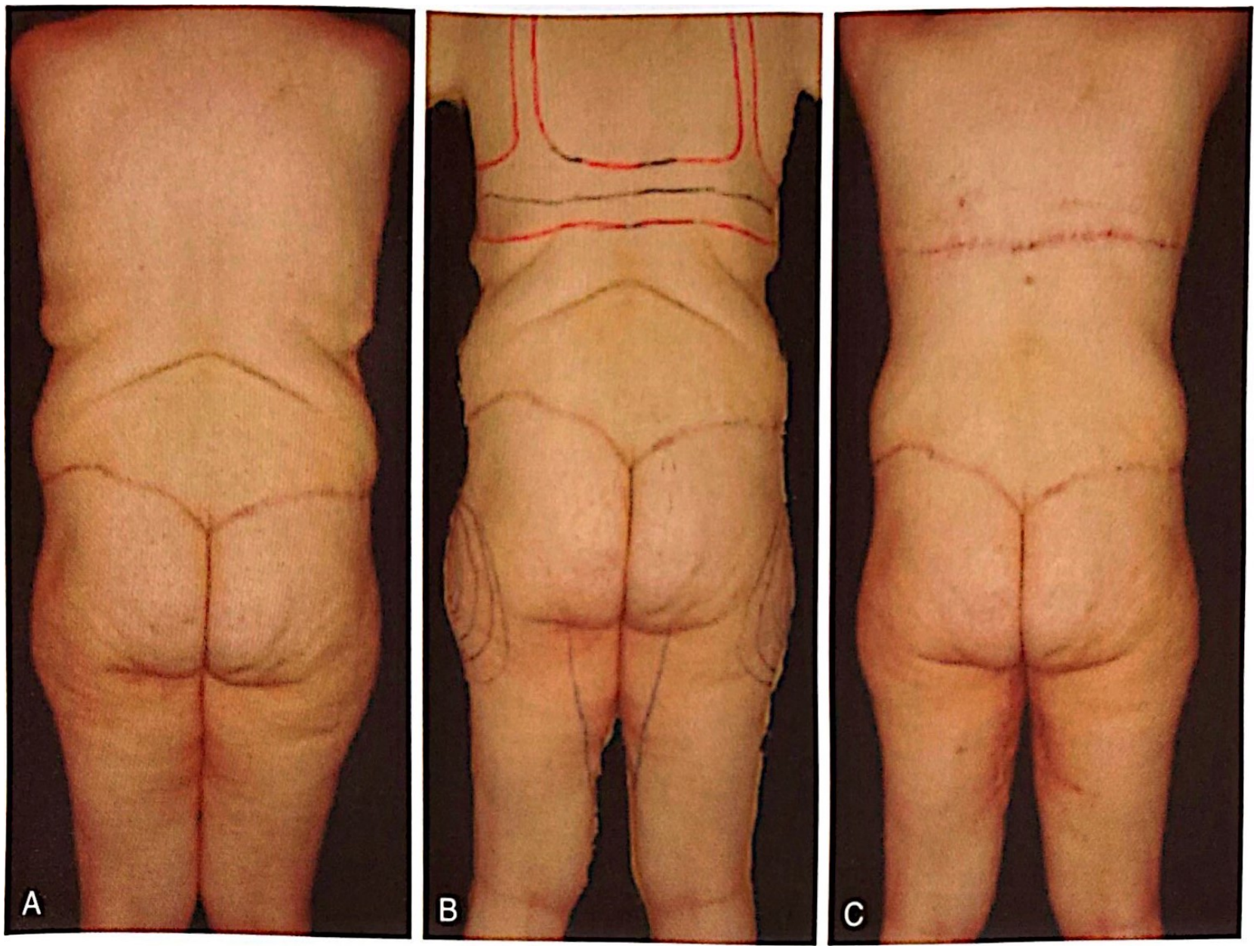

FIGURE 34.6 Upper body lift, revision lower body lift, mastopexy, liposuction-assisted thigh reduction, and liposuction Of outer thigh. (A,B) Preoperative. (C) Six weeks postoperative, posterior view. Note the precise position of incision within the margins of the horizontal strap of the bra.

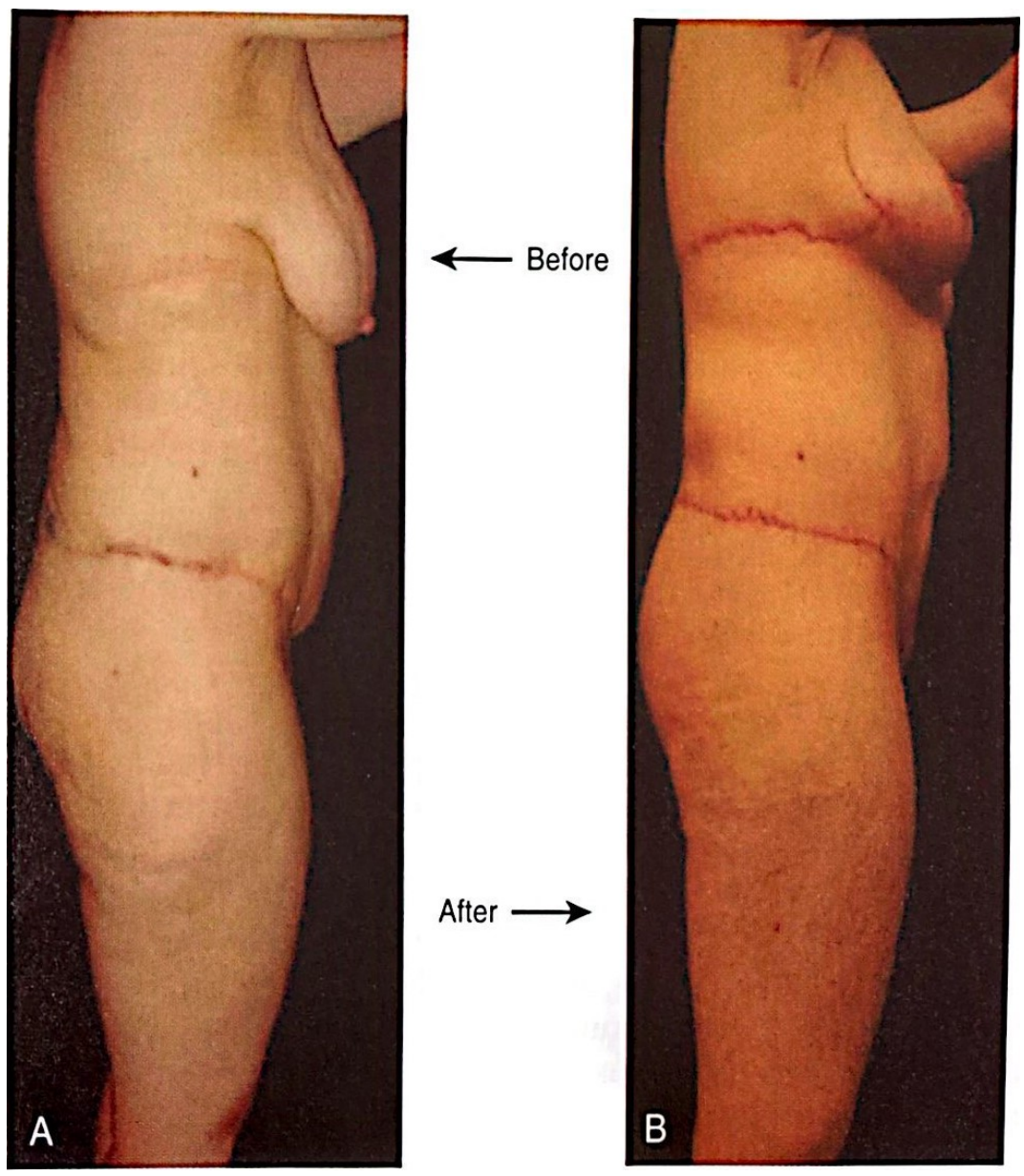

FIGURE 34.7 Upper body lift, revision lower body lift, mastopexy, liposuction-assisted thigh reduction, and liposuction of outer thigh. (A) Preoperative. (B) Six weeks
postoperative, right lateral view. Note the pseudoelongation of the thigh and correction of the saddlebag deformity.

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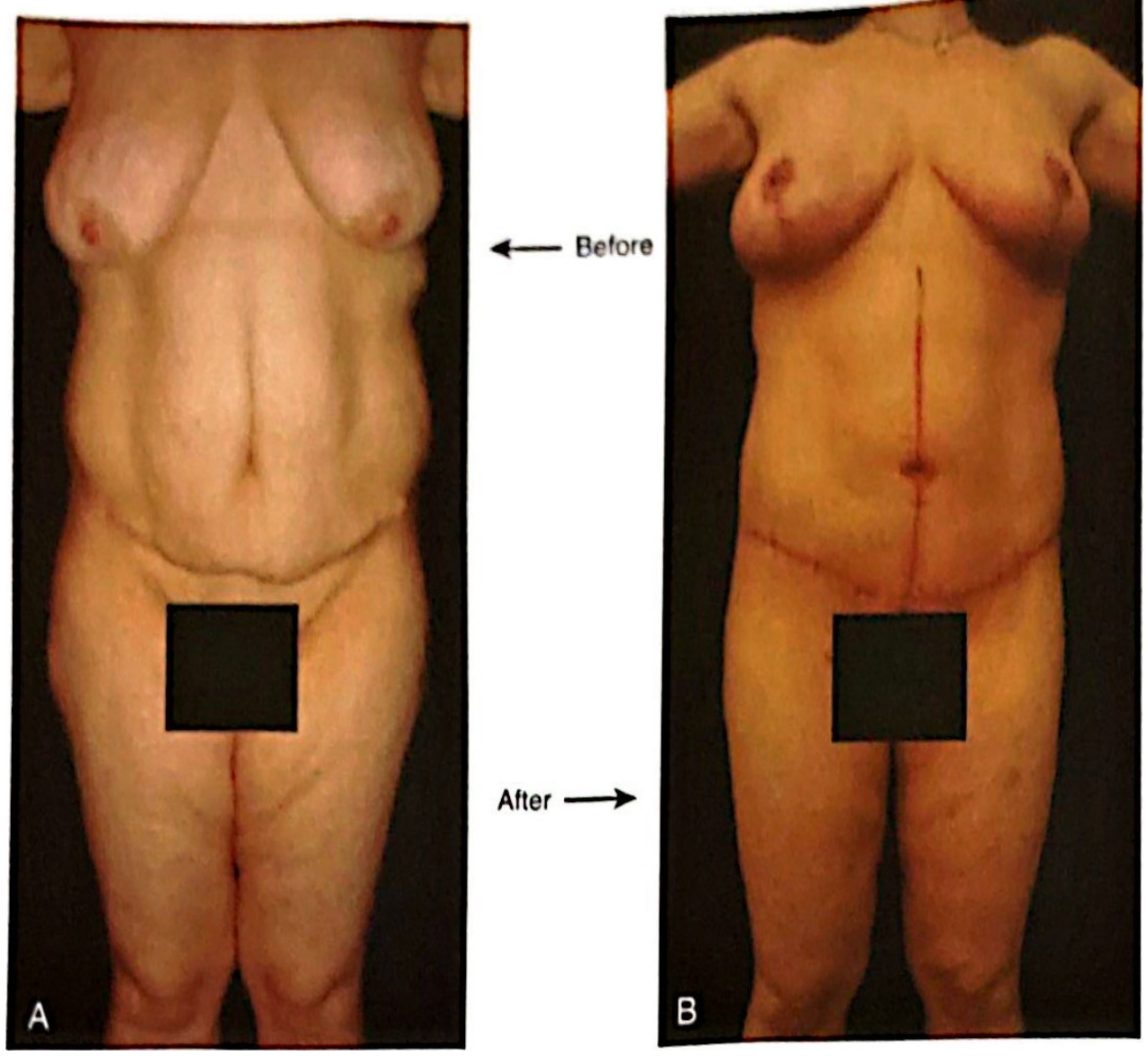

FIGURE 34.8 Upper body lift and revision lower body lift using a fleur de lis approach to address the soft tissue laxity in the vertical axis, mastopexy, liposuction-assisted thigh reduction. and liposuction of outer thigh. (A) Preoperative. (B) Six weeks postoperative, anterior view.

nipple-areola complex, and zone of liposuction are identified and marked.

The pinch test is done, and the proposed horizontal ellipse of skin and underlying soft tissue is determined. The patient is in the supine position under general anesthesia. Marker sutures are placed at the suprasternal space and xiphisternum. Tumescent infiltration is carried out, with extensive liposuction of the anterior and lateral chest wall. The composite-free, nipple-areola graft (2—2.5 cm diameter) is harvested using a nipple marker. Alternatively, the nipple-areola complex can be harvested on the central pedicle, as shown in Fig. 34.8. The staple test is done, and then the ellipse is marked again to ensure tension-free closure. The skin and soft tissue are excised up to the pectoral fascia. Hemostasis and usual closure are done as described above.

Mark the location of the free nipple-areola graft position equidistant from the midline with two marker sutures over the midclavicular lines at the level of the inferolateral border of the pectoralis major. Mark the disc of the proposed inset of the nipple-areola composite graft with a nipple marker.

De-epithelialize the recipient bed. Defat the graft inset using 5-0 Vicryl Rapide continuous sutures and quilting sutures, and tie over the bolus dressing using 3-0 polypropylene sutures. Gamgee dressing and pressure garments are applied as usual. The patient is discharged the next day.

MASTOPEW AND AUGMENTED MASTOPEXY

Mastopexy is indicated for severe ptosis of the breasts without volume loss; an augmented mastopexy is indicated when ptosis is associated with volume loss. Bilateral midclavicular lines and the inframammary fold are marked with the patient in standing position. The proposed site of the neoposition of the nipple-areola complex is just above the inframammary fold.

The patient is in the supine position, under general anes_ thesia. The staple test is carried out. Marchac's modification of the Lejour vertical mastopexy is based on the central pedicle.6 Tumescent infiltration is carried out, followed by the skin excision. Transposition of the nipple-areola complex on the central glandular pedicle is done.

Vertical closure with minimal horizontal extension as described by Lejour and modified by Marchac is completed.6

Skin closure is done with 3-0 and 5-0 Monocryl sutures; the patient should wear a sports bra.

BRACHIOPLASTY (Fig. 34.10)

The patient is marked in the standing position, with the arms abducted. Tumescent infiltration under general anesthesia is done with the patient in the supine position after skin prepara_ tion, as described above. Liposuction is limited and is only done underneath the skin within the marked ellipse.

The staple test is performed, and then the skin-only excision, with closure as above, without drains. Gamgee dressing and pressure garments are applied, as above.

Follow-Up

All patients are reviewed in the clinic at 1 week postoperatively, and the wounds are checked. A planned

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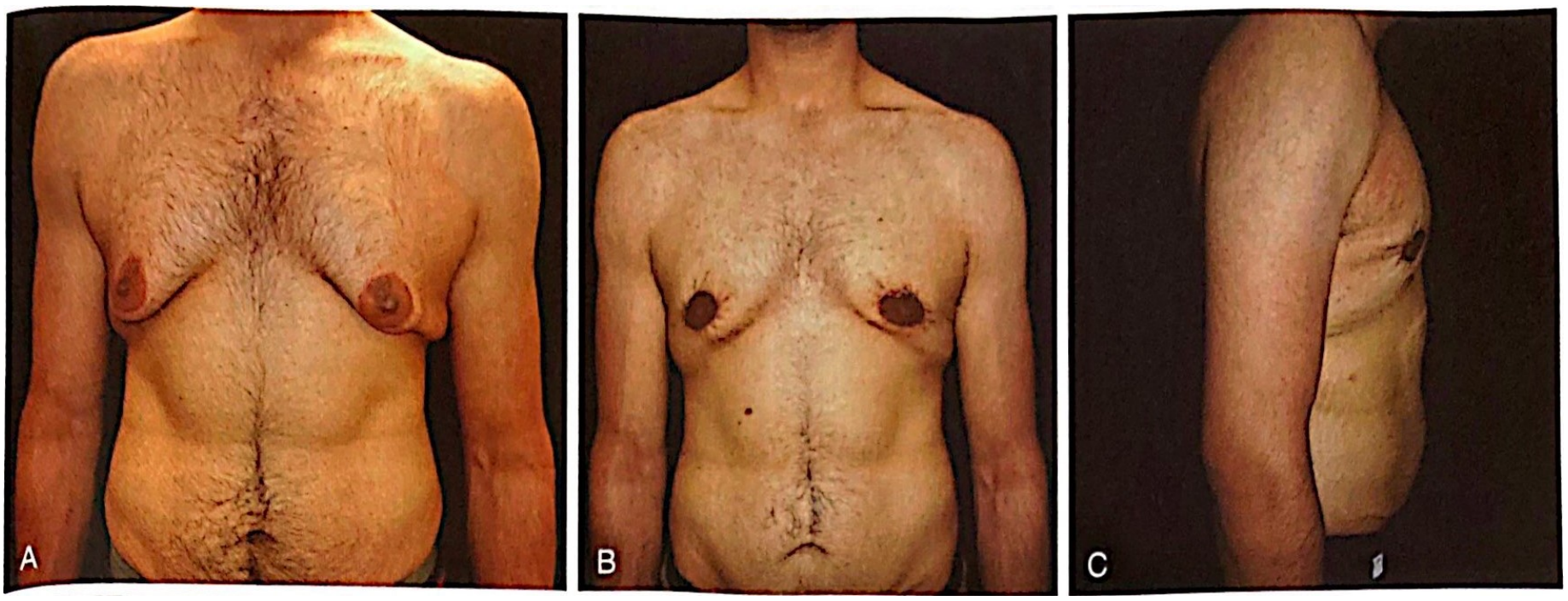
follow-up is done at 6 weeks and thereafter at 3 to 6 weeks, according to how with the patient's outcome has developed.



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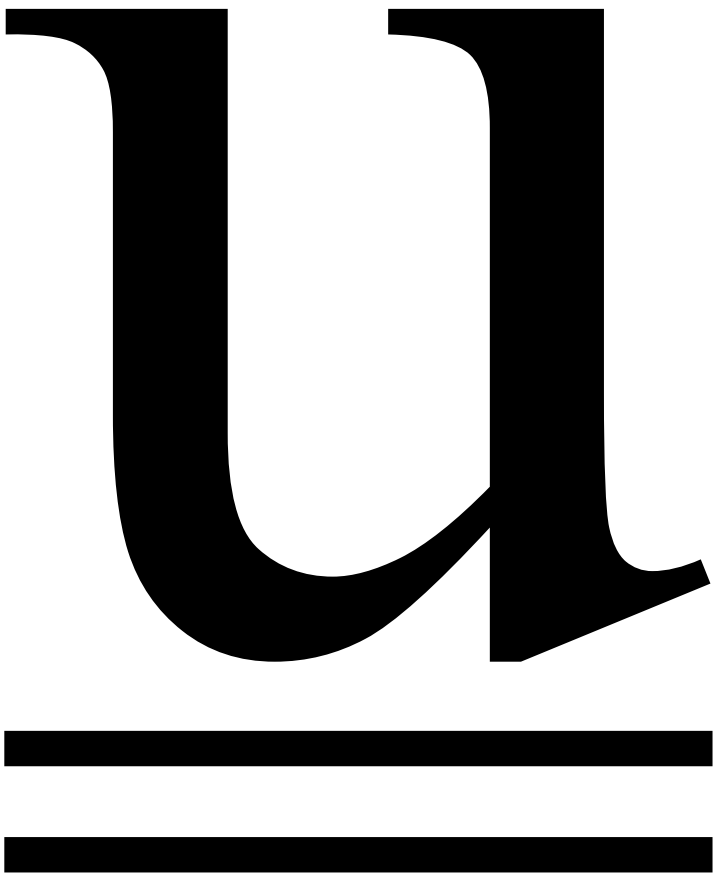

FIGURE 34.9 Liposuction-assisted correction of post-massive weight loss gynecomastia. (A) Anterior view before surgery. (B) Postoperative appearance. (C) Lateral postoperative appearance. (D) Preoperative marking with the patient in standing position. The outer marking represents the area for proposed liposuction and the periareolar marking was made for the proposed area for de-epithelializing. The horizontal marking was designed for proposed skin and soft tissue excision following the pinch test with the patient in standing position and the staple test done intraoperatively. The nipple was transposed on a superiorly based pedicle. (E) Lateral view of preoperative markings with the patient in standing position. (F) Excised tissue.

Table 34.2 Common complications and principles of prevention

Procedure	Complications	Preventive measures
Lower body lift	• Seroma (—10%) • Hematoma (—2%) • Flap necrosis and delayed wound healing (—1%)	• Meticulous hemostasis • Liposuction assisted pseudoundermining • Quilting sutures • Tension-free closure as ensured by pinch test at the time of marking and staple test before final excision • No surgery on chronic smokers
Post-massive weight gynecomastia(-2%)	• Partial loss of composite nipple graft • Precise inset and tie over bolus dressing • Hypertrophic, keloid scar (up to 10%, more in dark skin)	• Meticulous defattening of the graft loss • Application of pressure garments • Strict instruction of avoiding upper body workout for 4 weeks

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procedures. The reported overall complication rate varies from Complications 6% to 55%.[7-9] For other body-contouring procedures, complications are less common if strict adherence to preventive measures Complications are more commonly encountered in major is maintained. Table 34.2 denotes our experience, as well as procedures involving truncal or combined truncal-extremity listing key steps to avoid the complications.

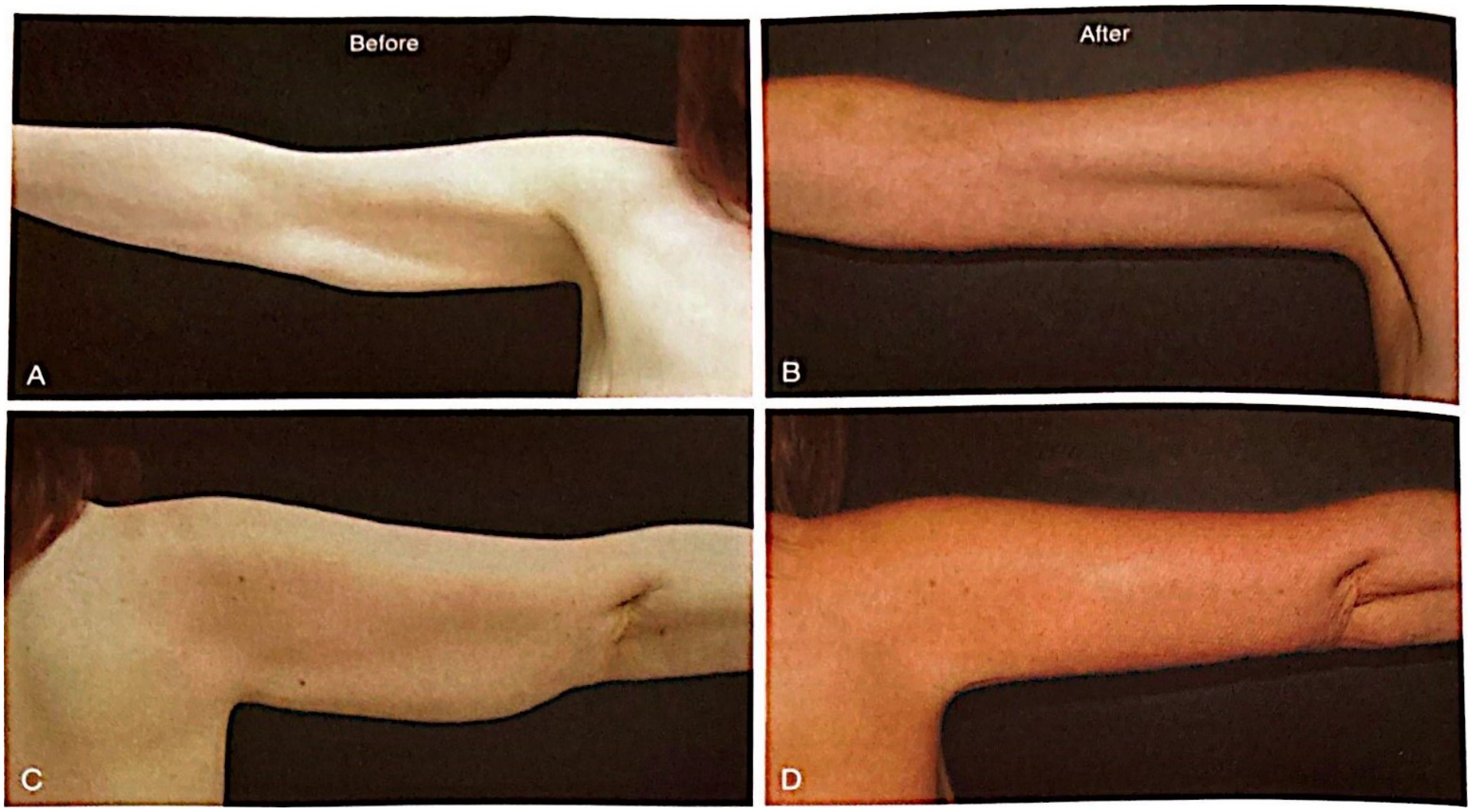

FIGURE 34.10 Liposuction-assisted brachioplexy. Preoperative (A,C) and postoperative (B,D) appearance. The incisions are well hidden within the posteromedial axis.

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Further Reading

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